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ORIGINAL ARTICLES.

ABNORMALITIES IN THE COLOR OF THE HUMAN HAIR.[1]

With a Report of Cases.

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ACCORDING to the literature of the subject, I find that the abnormalities in the color of the human hair are found to be gray or white, blue, green, yellow, red, brown, black, and that peculiar condition in which one hair has segments differing from others of the same hair. I also find that a number of instances have been recorded wherein the change has been periodic, without any known cause, or in which season has seemed to be a predisposing factor; and still others in which the hairs have regained their normal color after several years or more of abnormalism.

The abnormal color may be congenital, as in the many cases of albinism, and, while this condition is more prone to be seen in the negro race, it often occurs in whites. It may be complete, and generally it is the offspring of albinos that show this condition; but an example is mentioned by Hutchinson of an albino child being born to parents who themselves were dark. This is the only case on record that I can find, although Kaposi said, in 1874, that it was a well-known fact. In my search I could find no reference to any case of albinos giving birth to other than albino children. Cases have been recorded wherein this condition has been partial, as in those mentioned by Godlie and Morgan, in which a tuft of white hair was mingled with the normally colored ones, this peculiarity being inherited as late as the fourth generation. Anderson refers to a similar example occurring through the third generation. There are many examples in which this change has occurred in the colored race, as that of the so-called leopard-boy, who was exhibited in museums. A case appeared at my clinic some years back in which a colored woman, thirty years of age, presented a tuft of white hair immediately in the median line of the forehead which had a diameter of two inches or more; the woman also presented a difference in the color of the eyes, one being of a bluish tinge, while the other was brown. This woman was accompanied by her daughter, who had exactly the same condition of the hair as well as of the eyes.

The premature loss of color in the hair is no less an important condition, and whether it is a family predisposition or whether it takes place more or less suddenly, whether it is caused by some derangement of the nervous system or accompanying some depressing or grave disease, it is nevertheless abnormal enough to claim our attention.

I have made no attempt to collect those cases in which family predisposition has been a possible cause, as all are aware that this takes place, and I feel that it would be a waste of time to give more than a passing notice to that condition.

In many cases this condition of graying or whitening of the hair has been more or less sudden, and the cause has been one of the conditions enumerated.

Of the many cases in which the change occurred in a few hours or a few days, I include those of many writers. Mention may be made of those in which the change took place in a very few moments, as the persons were either brought out to execution or were awaiting the hangman's noose or the knife of the guillotine. Darwin, quoted by Walter Smith, mentions a man whose hair while being brought out for execution changed color before the eyes of the spectators. Laycock refers to a Sepoy who became gray in one-half hour. Parry states that a prisoner became white-haired within fifteen minutes while confined in the guard-house. Wilson refers to a young lady who was awaiting her affianced to come home to conclude his marriage ceremony, and who suffered the same effect on hearing of his sudden death. Smilie speaks of another case, that of a young man awakening and finding a grizzly bear lapping the blood which was flowing from a wounded arm. Dewees found gray hair on the forepart of a woman's head during her accouchement, which returned to the natural color in four or five days. Boyle met with this sudden change in a young man who was seized by the guards and was, as he thought, to be put to death. Miner witnessed it in a young boy who had learned of his mother's death. Sir John Forbes, who had gray hair, suddenly became white, which condition remained for a year, and at the end of which time it again returned to the gray.

[1] Read at the meeting of the Philadelphia County Medical Society, April 10, 1895.

Other cases are mentioned by Schenk, Hahnemann, Pechlin, Birsch-Hirschfeld, Nicholaus Florentinus, Borelli, Callius Rhodiginius, Eulenberg, Seligmueller, Marcellus Donatus, Fabricius Hildanus, Camerarius, Scalinger, and others.

There are other cases in which the change was less sudden, such as that of Brown-Séquard, who noticed the change day by day in his own person; of Sir Thomas Moore, the Chancellor of Henry VIII; of Henry of Navarre, who changed in twenty-four hours; the Monk Ubipertus, who had to become gray in one night to obtain a bishop's miter; Louis of Bavaria, who had condemned his wife to death; the well-known Perat, the wife of Laclere, who had to give testimony before the Peers in the case of Louvel; Marie Antoinette, but whom Charcot proved had gray hair before the death of her husband; the case of Smyth, in which a light-haired young man became gray in some places and jet-black in others; those of Landois and Pye-Smith, in which the change was noted after a debauch or delirium tremens; Ludwig Sforza, who had fallen into the bad graces of Louis XII; a man who turned gray in one night after military service in very cold weather, as referred to by Hardy; Smythe's patients, who turned gray in some parts while others became black, the skin also changing to a bronze; that of Banks, in which a young woman showed the condition on the eyelashes; Smilie's case of a young man, who had staked his all on the fortunes of a card, and who winning found on the next morning that his hair had become gray; Fowler's case of a girl who was chlorotic and who had a gray spot, two inches square, on the occipital region; the friend of Ferguson, who changed after business losses; a young girl of thirteen, who, according to Howe, awoke one morning and found a spot one-half inch in breadth on one side of her head, the other showing the change soon after, and the whole head undergoing the change in seven years; this writer also refers to a girl of eight years who had light hair on one side and dark-brown on the other; Anderson saw a case affecting the upper eyelid, in which this part, with the left whisker, was also white and of some years' duration; Thornton gives the notes of the case of a young lady in whom the eyebrow and lash became white within a week after a sudden fright; Faldenheim speaks of a change beginning at the age of twenty and being complete at thirty-three. Cases occurring in four or five days are also recorded by Richter, Bichat, and Moleschott.

Villerme records that in a girl of thirteen the lost hair was replaced by a woolly growth on part of the head and by brown hair on the other, which after a time faded into gray, some of which fell out and left a sad condition of affairs. Brandis has seen one side of the beard white, while the other retained its natural color. Of the many cases in which disease has been a predisposing factor I include that of Crocker, in which the eyelashes became white consequent to a sympathetic ophthalmitis, after removal of the opposite eye; and still other instances of this are spoken of by Nettleship, Hutchinson, Jacobson, and Schenkl. Cases following neuralgia are mentioned by Wilson and Paget, and in the latter there would be a return to the natural color in four or five days, Berger's being witnessed after a hemiplegia on the right side of the head and face; Murray met with it after the removal of a fibroid tumor of the uterus, and in this case it occurred after a severe neuralgia during the night, being confined to the internal half of one eyebrow and the corresponding eyelash. It has also been noted as occurring with epilepsy by Marselli and Beigel; with locomotor ataxia by Bulkley, Debove, and Bartholomy; coincident with cerebral tumor by Bourneville and Poirier; following typhus by Joannet; and in malignant fever in a case of Compagne, the hair was noticed to turn completely gray by the sixth day, but on the seventh it commenced to turn dark, and on the fourteenth it had become its original black color. Raymond observed this condition in a woman of thirty-eight, who parted with her son and who afterward lost money; during an attack of neuralgia she found upon the upper part of the head that the hair had turned red, while the remainder was completely white. Lorry says that graying of one side sometimes follows severe toothache; Wallenberg refers to a child having scarlatina, in whom the hair and nails fell out, and were replaced by a milky-white skin and albinotic hair; Naylor also speaks of a similar cause in his case; Ludwig has known the eyelashes to change color after smallpox.

Following this condition we have another in which we are confronted with the so-called ringed hairs, and several cases of this very interesting abnormality are recorded by Wilson, of a boy of seven years in whom the normal or brown segments were one-fiftieth of an inch long, and the white and abnormal segments were about half this length. To be mentioned also is Lesser's case of a child of four-and-a-half years, who was born without any hair, excepting the eyebrows, which were normal, and soon after the scalp presented the appearance of goose-flesh. The hair began to grow by the second year, the color being brown; the longer hairs were normal, while the short hairs were generally ringed. In this case there was also trichorrexis nodosa. Karsch has referred to a case in which the rings were not of uniform size; Crocker speaks of the moustache of a gentleman, aged thirty-nine years, which was also associated with trichorrexis nodosa; Richelot mentioned a chlorotic girl, in whom the hair became gray for two or three inches at its root, the parts beyond being unchanged. The chlorosis was cured by iron, and the hair-pigment was again

secreted, so that after a time she had brown hair at the roots and ends, the center still remaining white. Smith, Spies, Landois, G. Simon, and Thomson also have seen this condition; Unna speaks of a case of white nails, in which there were also ringed hairs.

In the following illustrative case the patient was a man of forty-seven years of age, who was brought, about the middle of the year 1889, to my clinic by Dr. John A. Fell, of Doylestown, Pa. I obtained the following history: His paternal grandparents lived to be eighty-two and eighty-four years of age, respectively, and his father was eighty years of age at the time of his death. He had two paternal uncles, one dying at the age of sixty-five of pneumonia, and the other of dissipation; there were two paternal aunts, one of whom died at the age of seventy, from a fall down stairs, and the other at the age of sixty-five years. All had good heavy hair, which was of a dark-brown color, the man's father having very few gray hairs at the time of his death. Of the maternal grandparents, his grandmother lived to be quite aged; his mother lives still at the age of eighty years. Of three aunts, one died before the birth of the patient, and consequently he was not aware of her state of health; another died during parturition at the age of forty years, and the remaining one in old age. The uncles were quite aged at the time of their death, being seventy-eight and sixty-five, respectively. The members of this branch of the family were of a sandy complexion, their hair turning gray or white at an early age in every instance. The patient had three brothers living at the ages of fifty-six, forty-nine, and forty-two, respectively, and one sister at the age of fifty-five years. In all of these the hair had not undergone much change, although in the eldest there was a slight tendency to become gray.

The members of both families, from the grandparents down to the present generation, had always enjoyed the best of health, with the exception of the patient's mother, who had always been a sufferer from temporal neuralgia.

The patient was born in Pennsylvania, October 22, 1842, and was, therefore, forty-seven years of age. He had two sons living at the ages of twenty and sixteen, respectively, there having been a stillborn daughter between the males. His habits have always been steady; he was never a drinker, or otherwise "fast;" he had never suffered from gonorrhea or syphilitic infection. At the age of four years he had typhoid fever.

During the War of the Rebellion he was wounded on September 17, 1862, suffering a compound comminuted fracture of the fibula, caused by a Minie-ball. He was confined in a hospital for five months. He suffered from iritis in both eyes, the marks of the cupping still being visible in both temporal regions. Since the war he has been troubled with "army diarrhea." He was a moderate smoker.

The trouble for which he sought advice began in November, 1888. He complained of severe pains in his head (no particular portion), from which he was unable to sleep except in short naps; he could not describe these pains accurately. During the day he was almost unable to keep a hat on his head, although it was of light weight, because it felt as if a stone.

These symptoms continued through the winter and summer until July, 1889, about the middle of the month, when, on going to the mirror one morning to comb his hair, he found a white streak on the right side of his moustache. The following day this side of his moustache was perfectly white, the left side showing no tendency to change. Within the next ten days the hair, formerly dark brown, changed color in its entirety, and gradually fell out until there remained only about one-third of the normal amount. At this time he gave me two pictures, which illustrate the appearance of the man just before and just after the changes occurred.

He says that when he goes to bed he is sleepy, but that when he reaches the bed he lies awake for several hours.

On January 5, 1895, I found that there was no change in the color of the hair, except as regards the portion in the occipital region, where the new hair is of the normal color before this change took place. The color of the other portion remains as white as stated in the previous notes. The man told me that he had just about enough hair upon his face to make it necessary to shave once a week.

In bringing this case to the attention of the Society I wish to show plainly that this sudden blanching of the hair does occur. I cannot understand why so many of our medical teachers state positively, even to this day, that it is impossible. Kaposi said in 1874 that there was no such thing as sudden blanching of the hair, and that if the cases had been examined previously to this so-called change it would have been seen that the condition was gradually taking place—that is, that the pigment was losing its power of giving normal color to the hairs. This writer was not alone in this assertion, as such men as Haller, Barensprung, Reisner, and Hebra were counted in the list. I therefore feel great trepidation in reviving the subject at this time.

The condition of sudden change must certainly have been known, for if we refer to the words of Lord Byron they are certainly conclusive:

> "My hair is gray, but not with years;
> Nor grew it white
> In a single night,
> As men's have grown from sudden fears."
> (*Prisoner of Chillon.*)

The question remains, Why in one instance a person will have brown hair, or red hair, and in still another it will be black? This can only be determined by the number and size of the air-bubbles that are contained within the hair. In the black hairs we have the air-bubbles in minute quantity, while in those of brown hairs we have them in some slight increase, and they are found in larger quantities still in the red hairs. Taking these points into consideration and examining the refractive power of the hairs in this connection, we can readily understand how one person will have color differing from another. And the same explanation may be applied to this sudden loss of color in its structure. We have, perhaps, through nervous shock or some unknown cause, the collection of air-bubbles in large quantities throughout the entire hairy system, and, as the refractive power of the hair becomes changed, we are confronted with this apparent loss of color.

Pfaff has stated that the pigment is not diminished until advanced age, but I am of the opinion that, except in albinos, the hair is never devoid of this coloring-matter. If the theory is correct that we have a loss of pigment in advanced age, how can we account for the return of normal color of the hair in very old persons? I do not think that reformation of pigment will ever take place, the color not being transmissible, but is due to the amount of air-bubbles contained within the hair.

If the statement be true that air-bubbles are the direct cause of this condition, it would appear that the cases recorded by Prentiss, in which one of the patients was treated with jaborandi and the other by pilocarpin for some intercurrent malady, and in whom the normal color of the hair returned, would tend to prove it; and the experiments of Pohlman with pilocarpin, in which he obtained the return of color in certain cases, and yet was unable to secure it in an albino rabbit, would add testimony in this direction rather than disprove it.

BLUE HAIR.—Many cases are recorded in which the change has been to a blue in those who are workers in cobalt-mines or who are employed in the manufacture of indigo; thus Borellus records the case of a man who had worked in the manufacture of indigo for twenty-five years, and whose hair had been blue for at least twenty years. In the case of Beigel, the blue color did not penetrate into the substance of the hair, but particles of indigo were deposited in an irregular manner upon the cuticle of the hair.

GREEN HAIR.—Green hair has been witnessed in those who are employed in copper-mines, as in the case of Petri, of a man of seventy-eight years, in whom the hair of the scalp was green, but in whom the hair became its natural color after washing in solution of caustic ammonia. Billi refers to a man with ringworm of the scalp, who was treated with corrosive sublimate and an ointment of yellow mercuric oxid, and in whom the hair became green. Another case is recorded by Orsi, of a railroad-workman who became suddenly green-haired, the green hairs being mixed with the gray; washing with ether, alcohol, or a dilute solution of potash did not affect it, but the hair on being cut grew out again gray. Clapton met with cases of green hair in copper-workers, and Wiltshire in those who were pin-makers. Joseph Frank also observed it. Rommel met a man of thirty years thus affected, but who had never worked in a mine. Borellus records the case of a young man who had green hair and green perspiration. Blue hair is also seen in those who work in brass. Leonard, Bouchardat, and Posner believe that the colors, both blue and green, are only superficial, and can be easily rubbed off; but Elbe, who has made a comprehensive study of this condition, states that this discoloration is not alone confined to the superficial part of the hair, but is intimately connected with its entire substance and cannot be rubbed off. The recorded cases disprove the latter assertion of Elbe.

YELLOW HAIR.—Smyly records the case of an infant of four months whose hair changed from its usual mouse-color to that of a reddish-yellow. The right eyebrow and the skin of these parts, as well as that of the right hand, were icteric; the pillow also was saturated with a reddish-yellow perspiration. Walter Smith tells of a boy in whom the lobe of each ear was of a sulphur-yellow, the downy hairs being also a bright yellow, while the hair of the head was brown. Many cases have been seen in which chrysarobin and chlorin gas have produced this same condition. Hydrogen dioxid, as is well known, is used to bleach the hair.

RED HAIR.—McMurray mentions a man having a hemihyperidrosis of neurotic origin and herpes zoster of the corresponding side, in which the hair of the affected side was of a light red, while that of the other was dark. Squire referred to a deaf-and-dumb boy of sixteen who had dark-brown hair in some places and auburn in others, and which to some extent resembled a tortoise-shell cat. Isoard describes a young lady, who was deaf and dumb from birth, and who every time she had a certain fever the hair, which was of a pleasing blond, became a dusky red; but that so soon as the febrile symptoms diminished the hair became natural. Alibert records an almost similar example; he also refers to a case in which after a severe illness a head of brown hair became one of bright red. Mention may also be made of the offspring of parents who are dark and who show a tendency to reddish hair. Congenital redness has been witnessed in members of the colored race. Leonard speaks of a young man who had brown hair, and which afterward became a positive red after a few years' residence in the hot climate of Sumatra.

BROWN HAIR.—Wilson cites an instance of a man whose white hair turned to a brown and back to gray again before his death, at the age of one-hundred-and-fourteen years. Belcher refers to a woman of ninety-five, who had been insane for fifty years, and who at her death had brown hair, there being not a single gray hair on her head.

BLACK HAIR.—Pyrogallic acid will make the hair black. Wilson records an example of the change to black in a woman of ninety-five, whose gray hair turned to black, and which became gray again before her death, at one-hundred-and-five years. The cases recorded by Prentiss are indeed unique: the one in which a woman of seventy-two was given pilocarpin, and the other of a woman of twenty-five who had taken jaborandi, in both of whom the hair became black. Sykes referred to a man of eighty-one, who had white hair which in

a few years became black, and Bruley to a woman of sixty years, who had naturally white and transparent hair, which became jet-black four days before her death. Albert alludes to a person in whom the hair, from having been previously brown, became deeply black. Copeland remarks that in a number of instances gray hair has become black. Beigel refers to this change taking place after typhus fever; this was witnessed in a woman who had blond hair, which was replaced by coal-black hair.

PERIODIC CHANGES.—Warner records the case of a gentleman whose hair turned from black to white and back again three times in thirty years; the change from black to white was always rapid, while that in the other direction was slow and took some five years for completion. There would be a pause of some years when the color was normal, and then it would become white again. Reinhard gives the notes of a case wherein, in an idiot, the change was periodic, being from a reddish to a blond yellow. Rauber records a case of this change in an epileptic. Wilson saw it gray in winter and natural in color in summer.

RETURN OF COLOR.—Isdell refers to a man of sixty-two, with gray hair, and when eighty-three it was of its former normal color. Allanson Abbe speaks of a case returning from gray to quite dark, and even black in places, mingled with gray hair. Graves records many examples; one was blistered, and the hair came in black, and remained so. Another was bald on the vertex, forehead, and temples; this was blistered, and a growth of hair occurred in a ring. There was also a girl who had several bald spots remaining after a tinea; in this case common gas-water was used, and the hair regained its natural color. Still another was that of an army-officer who had been in the East. Sir John Sinclair mentions a Scotchman dying at the age of one-hundred-and-ten, in whom the hair regained its normal color. Joannet speaks of several instances, one of which was in a man who had been campaigning in the East, and in whom, upon remaining home for a year, the normal color of the hair returned; another patient took a sea-voyage for a year, with the same result. Hoffman records the case of a gentleman who was an incessant user of tobacco, and whose hair became gray; upon relinquishing the tobacco the hair again became black. W. O'Neil refers to a man who was gray and bald; three-and-one-half years after hemiplegia, and at the age of sixty-two, he noticed that dark hair was growing on the bald spots, and the gray hairs fell out and gave place to dark-brown hair.

I recall the case of a friend of about sixty-three years of age, whom I have known to be gray for at least fifteen years, and during the past year or two the normal black color of the hair is showing itself in the new-formed hairs.

MISCELLANEOUS.—Hauptmann refers to a case of a body which had been exhumed more than twenty years after burial, in which the hairs appeared red, whereas the hairs of the individual at the burial had been dark brown. Leonard speaks of a case in which, after death, a head of red hair changed in the course of a few hours to blond, and within thirty hours to gray.

Oesterlin has recorded a case wherein the hairs were more intensely pigmented toward their roots.

If any reported cases are not included in this list, I beg indulgence, owing to my inability to obtain data.

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THE MENTAL STATE AS CONDUCIVE TO ORGANIC DISEASE.[1]

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THAT we are at present in the dawn of the age of preventive medicine is accepted by all thinking medical men; hence, the scientific facts sustaining this conviction need no elaboration and but brief mention in a paper of this kind. We recognize that as the accumulation of histologic and pathologic facts has gone on, the medical mind has grown more and more modest in its claims as to the curability of disease. This accumulation of facts has shown, first, that many diseases, from their very nature, are incurable, and at last the old egotism of ignorance entirely gives way when it is seen that all living organisms possess within themselves an inherent vital force, capable, to a large extent, of stamping out and keeping out the causes of disease. With the possession of this knowledge naturally comes the effort to conserve and further the action of this vital force by the development of these means, which are comprehended in the term *preventive medicine.*

While we have learned that death lurks not only in the cup, but in the bowl, the dish, and the milk-can, in the miasma of the night-air and the dust of the busy street, we have also learned that so long as the general health of the human body is maintained, its inherent vital force, through the agency of the phagocytes, is able, for the most part, to resist successfully the invasion of the germs of disease. This inherent vital force, this essence, which is the measure of the desire and ability to live, is doubtless the resulting strength and vigor of the combined sperm-cell and germ-cell at the time of conception, conserved, added to, or wasted, as it is variously affected by the million factors that influence its existence from the time of conception to old age. Every individual possesses it in a different degree, and its variations range all the way from the weaklings that die *in utero* or live an hour, week, or month after birth, to those high examples of physical and mental strength that carry on the work of the world.

[1] Read before the Alabama State Medical Association, at Mobile, April 17, 1895.

The utility of this vital force may be impaired in a variety of ways. In the order of their importance they may be divided thus: First, ignorance of the mental and physical laws of right living. Second, mental shock and strain, and physical accident or exposure, which are unavoidable. For instance, a man living in perfect health in a malarial region breaks his leg. The lowered resistance of his vital force is overcome by the malarial germ, and he develops malarial fever. Mental shock may so depress the vital force as to invite the germs of disease and cause the body to fall an easy victim, or, failing that, may, by its impression on the nervous system, so disorder the bodily functions as to cause in time organic changes.

In the first class of the causes of lowered vital force (those due to ignorance of the moral laws) we need not dwell upon the fact of thousands falling victims yearly owing to the ignorance of themselves and others regarding the laws of physical sanitation and hygiene, but it is to the mental state and the position it occupies in the causation of disease through ignorance of the laws of right living that I wish to invite attention more specifically.

The human mind or brain-function probably never rests entirely, but it must have its equivalent relaxation in a healthful variety of subject, pleasurable change. The business-man, when prosperous, has the excitement of his affairs and his hours of ease and pleasure at his fireside. His drudging clerk, having no family ties, and possessing no artistic or social tastes of the higher order, must resort to cards, billiards, or worse, with others of his kind, while the ignorant negro laborer is limited for mental relaxation to the banjo, the dance, and the crap game, whisky, and the razor.

This mental relaxation, however obtained or whatever the form it takes, is absolutely essential to the healthy performance of the bodily functions. Conversely, high mental tension on any subject, continuing long enough, will cause disordered function, which will in time surely be followed by organic change. The business or professional man laboring under financial stress or overwork is a good example of physical breakdown from mental strain, but the sub-class of cases that I wish to speak of more particularly includes women who are born with, or through long years have slowly acquired, the worrying or fretting habit. This usually begins in childhood. Under the false but popular protection-system of training, egotism and selfishness are encouraged at the expense of self-reliance and self-restraint. I beg indulgence while I report two ideal cases that I have personally encountered, and which will, perhaps, better illustrate my meaning:

A woman, aged thirty-two years, married fourteen years, with one delicate child, a boy of thirteen years,

had always, as a child, girl, and young lady, been regarded as delicate, although she had never had any serious illness. Through childhood she had been indulged in every desire and protected from every irritation by an overfond and self-indulgent mother, and had never learned the meaning of self-restraint. As she grew up, her wants became harder, and finally impossible, to supply, and then the little irritations and deprivations began to cause fret, worry, and general mental suffering. Since her earliest recollection everything in the household had constantly bent to her wishes, and her mind had unconsciously taken the attitude that everything in the world should be made to do the same. Her egotism was developed; her view was distorted by this artificial breeding, until, like primitive man, she thought the universe was made for her. When she came in contact with the world, and life became more complex, the ordinary little irritations, against which she had been protected so unwisely, pressed so thick and fast that husband and mother were unable to shield her entirely, and her mind became gradually fixed in a fret upon her woes, the least of which was more important to her than the real troubles of other people.

This woman's husband was a physician, with a good income, but spending it all in his hopeless endeavor to supply her ever-increasing demands. For five years she was an almost helpless invalid from nervous disorder, with its inevitable train of headache, loss of appetite, sleepless nights, constipation, and indigestion. It should be remembered that all her life she had had all the creature-comforts, had been protected from every extreme of heat and of cold, her stomach had never been called on to digest plain food, and, as a consequence, for ten years she had been under the high mental tension of worrying about the thousand little disturbances of muscles, nerves, and digestion that inevitably follow a habit of little physical and mental exercise, fresh air, and refreshing sleep. After five years of almost complete invalidism her husband suddenly died. She was left sick abed, with a delicate child, an invalid mother, and without a dollar in the world.

What follows proves conclusively that this woman's sum of unhappiness was due solely to her mother's mistaken notion of kindness in never allowing her daughter to learn the necessary lesson of self-reliance, and having taught her instead to be dependent, selfish, and miserable. The mother thought she was doing the best, but she really was engaged in a most vicious and immoral form of self-indulgence; she was pleasing herself, but wrecking her daughter's future health and happiness. In spite of this life of selfishness, this daughter had many friends, was attractive, educated, and highly accomplished in music, painting, and needlework, all pursuits for which she had a natural talent, and which really, no doubt, saved her life.

When her husband died, and stern necessity stared her in the face, she had a hard struggle with her pride, and no doubt suffered a great deal mentally and physically; but whatever the effort cost her she made it, and when I saw her a year later she was keeping boarders, teaching music and painting, and making a good living for the three. Several years after that she was strong and well, had gained thirty or forty pounds, and did not have time to be sick.

This was a case of cultivated invalidism pure and simple, and, if the early conditions had been maintained for a while longer, some organic trouble would undoubtedly have followed—tuberculosis, general nervous exhaustion, or what not.

An ancient Eastern sage once said: "In the course of my long life I have often noticed that men were more like the times they lived in than they were like their fathers," meaning thereby that hereditary tendencies are overwhelmed by the influence of environment or training, when the two happen to work in opposite directions. And so in the case I have just reported. Naturally the woman, that is, her mental and physical heredity, offered the poorest possible material out of which to make an invalid. She was bright, forceful, and intelligent, with every inherent quality to make an energetic, useful member of society, which she finally became by accidentally escaping the usual final consequences of her early training.

I must beg further indulgence while I relate briefly another somewhat similar case, but in which the natural qualities were more favorable to the success of similar vicious early training:

This case also was in a woman, aged twenty-six years, married five years, with no children. The same protective system had been carried out, first by the mother and then by the husband, until all interest in everything but her own petty ills and irritations had been blotted out. At the time I first saw her she had the appearance of robust physical health, but was in a never-ending fret about her husband, her household cares, and the thousand functional disturbances of nerves, muscles, and digestion which constantly attend, as both cause and effect, such mental states as hers; a never-ending list of wants; reproaches for all, in place of thanks and kindly feeling; the interciliary ridges denoting extreme anxiety, high mental tension being never absent. This selfishness and total absence of all self-restraint and self-reliance were her masters, and although no physical disaster had yet been wrought, the result was inevitable.

Physical examination revealed no organic disorder, except a small cyst of the left ovary, which caused no inconvenience other than mental. This state of worry, of high mental tension, however, with its attendant train of bad physical habits, no exercise, no fresh air, no refreshing sleep, indigestion, headache, and constipation, and last, and most important of all, no healthful mental change, her mind on one eternal strain about herself, did the work, and five years later she died a physical and mental wreck. Seeing her again in consultation after this lapse of five years, I could

recognize mental symptoms, such as fretting about trifles, which at first would have been amusing, except for the grave tendency, now grown most pitiable in the intensity of the mental anguish they caused. She had no waking moment for weeks prior to her death that was not filled with the most acute mental and physical suffering. Self-pity and most pathetic charges of injustice and neglect, which she felt to be just, she showered on all about her. These made up her mental agony, and the long-starved-out and abused and exhausted nervous system, crying out as physical pain in every final nerve-distribution, was none the less real. She died with a frown of reproach for all who had loved her and cared for her, and the cause of her general exhaustion, I am convinced, was primarily mental.

The post-mortem examination showed beginning tuberculosis in both lungs and slightly advanced interstitial nephritis. The cyst of the ovary had grown little or not at all; there was no organic change sufficient to cause death, which was due simply to an exaggeration of the mental symptoms present five years, or ten years, or twenty years before, to a point at which the exhausted brain and nervous system could no longer furnish life to the tissues.

These two women had the same vicious early training, and but for an accident in the environment of the former the results would have been the same. The first case was not naturally so bad as the second, because the woman had natural tastes that asserted themselves, and, combined with her maternal affections, took her out of her own thoughts for hours together, thus relaxing the nervous tension, smoothing out the brow, and giving the mind an occasional much-needed rest. It would only have taken a little more time, however, to balance these advantages, and she would have gone the same road as the second. The second woman had no inherent healthy force, no tastes, no talents, although pretending to all; no attractive qualities, and, consequently, no friends, and no affection for anyone but herself. Her mental tension never relaxed, except when overcome by sleep, and of that she had little; consequently there was nothing to obstruct the rapid progress toward nervous ruin.

To my mind these cases tend inevitably in one of three ways: either some acute organic disease steps in and ends the struggle; or this goes on unobstructed to the end, as in the second case; or something occurs that brings about a radical change of habit that effects a cure, as in the first case. Case I could have been cured at any time by a little patient, judicious teaching and intelligent help. Her case was due solely to ignorance on the part of her husband and mother. Case II, with a bad heredity and no redeeming qualities, would have been a harder case to manage; would have required, no doubt, a wise attendant and adviser from her natal hour.

In the management of these cases the intelligent physician can do much, if he will leave his saddle-bags at home, and study the mental condition closely, and rely on his ability as an educator. The "Weir Mitchell" rest-cure is successful in many of the milder cases. It puts away all medicine, and excludes all garrulous friends and over-anxious mothers; but, combined with this, after the patient's confidence has been gained, she should, I believe, be made to understand the mental source of her trouble. She must understand that not only is her co-operation necessary, but that the entire burden and responsibility of the cure are on her; that no miracle can be wrought for her; that there is no royal road to her cure; that her condition is the result of long training and self-indulgence in bad mental habits, and that only by long and patient work in the opposite direction can she be benefitted; that the mistakes and evils of her youthful training cannot be wiped out by a pill or a prayer devised by someone else, but that she herself must long and patiently atone. Those cases can be cured that, like the first case I have reported, have some good left to appeal to—if that something good is appealed to, and the conditions honestly explained, to the end of gaining the patient's confidence and enlisting her co-operation; maintaining the strictest of discipline over her, or rather helping her to do so herself, and showing a most honest sympathy and concern for her welfare, and finally throwing the entire responsibility for the success of the treatment on her. On the other hand, if she has not any stronger desire than amplifying her symptoms in order to revive the waning sympathy of long-suffering friends or to stagger the new doctor with the importance of her case, if she has no reason, tastes, or aspirations left to appeal to, or if she is over fifty years of age, and "sot in her ways," she and her friends will get more peace and happiness from a hypodermic syringe and a bottle of Magendie's solution than from anything else. Cases of this kind, which cannot be dealt with honestly, whose confidence cannot be gained nor co-operation enlisted; in short, those who have little reason and no will-power left, receive but temporary benefit from bread-pills, hypnotism, hoodooism, charms, fetishes, and prayers. Such treatment, in fact, has made these cases what they are.

The two cases I have detailed are typical of the conditions I wished to illustrate, but, like all pure types, are seldom met with. By far the most common form of this acquired or cultivated state with which we have to deal is a variable and ever-varying combination of the two. In brief, it is a state of high mental tension, mental overwork, brought about by a selfish, worrying habit; worse at one time, better at another, as it is influenced by the thousand healthful and unhealthful factors of en-

vironment, but, on the whole, gradually growing worse as the years of youthful frivolity, change, and excitement are replaced by the more monotonous period of middle life. This state persisting, with its accompanying indoor existence, poor air, poor exercise and sleep, dyspepsia, headache, constipation, and no mental relief, the rule is constant; the weakest point gives way to organic disease, or the patient succumbs to pure nervous exhaustion. Again, a monotonous home-life is often responsible for conditions that have in turn been charged to perversity of the liver, uterus, or ovaries. Housewives who suffer from the persistent waywardness of husbands and children, from poverty, confinement, and hard work, with no hope of relief or pleasurable mental change, in ten, fifteen, or twenty years go the way of nervous wrecks, and many wonder why.

These cases are peculiar to women, not because they have ovaries, but because they are so often the delicate hot-house pets of mothers or the unconsidered and unpitied slaves of men. In one case the girl is often completely under the vicious influence of an indulgent and ignorant mother. Her brothers are never beyond a certain age. Neglect a boy's training in self-reliance and develop his egotism to the utmost, and one game of marbles or ball, perhaps, will knock it all out of him. The boy, sooner or later, always has companions who estimate him at his real value, and force him to accept it. They teach him self-reliance as well as self-restraint; they inure him to personal irritation; he sees the world as it is, and early learns that biologic principle that the individual must mold himself to his surroundings.

The girl, brought up under the protection-system, thinks the surroundings can be cut to fit the individual, and working, or rather fretting, under this hypothesis, she grows up unhappy and unhealthy, and with her ovaries threatened by every new doctor she calls. As I have mentioned, this state of high mental tension is often acquired by business-men who have allowed their affairs to grow beyond their strength to handle. Such men, ignorant of or indifferent to the laws of mental hygiene, can, by ignoring the loud clamors for rest for the weary brain, bring about that state of low physical resistance so inviting to infectious or organic disease. The physician's duty in all these cases is almost entirely educational. Such cases in men are easily treated, the condition being obviously a late acquirement. A few months of mental rest will effect a cure.

To an unfortunate woman, whose state is the result of early training, worry is more nearly natural, and to attempt to cure would be to attempt to bring about an actual revolution in her character, and those only can be cured who have some reason and understanding left to appeal to. Let such a woman be told that she has nervous prostration, but let it be explained to her what is meant by that; let her be shown its cause, and be impressed with all the sympathetic eloquence at the physician's command that there is no royal road to her cure; that her improvement will be speedy or slow in proportion as she recognizes her condition; that her physician and attendants can only remind, encourage, and direct, but not cure. She must be warned that this fixed habit, the result of years of bad mental hygiene, can be changed only after long and patient work in developing and reviving the latent and atrophied forces that still remain. Cases that have passed a point where reason, will, and understanding have been all but annihilated may eke out a tolerable existence with anodynes in a continual warfare with the weaknesses that have flourished too long.

To benefit these cases in the line I have indicated there is obviously necessary a state of confidence in the physician, and a faith in the wisdom of his view of her condition. This is difficult of attainment at all times, and after the patient has reached a certain age, or her condition a certain degree, it passes all possibility. Such cases there are, and we have all seen them, who, inheriting this tendency to worry, this lack of will-power and self-reliance and reason, and having been subjected to the ignorant and vicious protection-system of early training, followed by a procession of female sympathizers to encourage every little selfishness and physical and mental ill, and accompanied by medical treatment as comprehensive as it is vague, ranging all the way from bread-pills and asafetida to ovariectomy, have at last reached a point where they have not one force left with which to cope with the tenderest possible conditions of life. The drawn mouth, the emaciation, the quick, nervous eye, the interciliary ridges and furrows, together with the never-ending list of complaints, will recall cases that have fallen victims to infectious or organic disease, or have faded away as simply unfit to survive.

The prophylactic measures that the foregoing ideas suggest obviously comprehend certain advice to the mother of each newborn babe that opens a field too broad for me to enter and a responsibility too great for me to assume.

To Prevent Thirst after Celiotomy HUMISTON (*American Journal of Obstetrics and Diseases of Women and Children*, July, 1895, p. 89) has the patient drink for three days previous to the operation a pint of hot water an hour before each meal and also on retiring, the last pint to be taken three hours before the time set for operating. In this way is restored to the stomach the large amount of fluid lost by the free catharsis. This method has been followed in twelve cases, the patients presenting a moist tongue, active renal function, and freedom from thirst.

CLINICAL MEMORANDA.

THREE CASES OF CHRONIC ABSCESS OF THE BRAIN.

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CASE I.—William E., thirty-one years old, white, ranchman by occupation, was admitted to St. Luke's Hospital on the evening of January 22, 1895, with supposed typhoid fever. It was impossible to obtain any facts in regard to the family history, and the patient's mind was so clouded that the personal history was very imperfect. He had led a very irregular, dissipated life, had indulged in alcohol for a number of years, and had contracted syphilis four years previously. It was learned, after his death, from a brother who had come from a distance, that several months before he had received a blow on the right side of the head which rendered him partially unconscious for some time, and that after recovering from the immediate effects of the blow he returned to work on a ranch, but frequently complained of dizziness and great weakness. It is important to remember that this information relating to the blow on the head was not given until after the patient's death, and was obtained by the brother of the patient from the friends of the sick man with whom the latter was staying at the time of the injury.

The only history that I could obtain on the patient's admission to the hospital, other than a meager account of his habits and syphilitic infection, was that he had suffered from headache for about two months. About the middle of December, 1894, his headache became intense, almost constant, and the pain was localized on the right side of the head, principally in the frontal region, but occasionally extending back to the occipital. Soon after this he was confined to his bed in an out-of-the-way place, where he could obtain no regular medical attention, and up to the time he was brought to the hospital he had remained in this condition, suffering from headache, loss of appetite, and great prostration. During this time he had emaciated rapidly and was supposed by his friends to be suffering from typhoid fever. To get him to the hospital it was necessary to bring him a distance of thirty-five miles, during intensely cold weather, in a wagon that was only partially covered. He was at first placed under the care of the general medical attendant, but, on account of the patient's severe headache and paresis of one side of the body, I was asked to see him in consultation with Dr. Sewall, the attending physician at the hospital at the time, and Dr. Munn, who was called in because it was found impossible to pass a catheter into the bladder on account of an old stricture.

An examination was undertaken at about 10 P.M., two hours after the patient was brought to the hospital. When left alone the man lay in bed, breathing quietly and apparently sleeping; on being spoken to he would rouse up for a moment and answer a question, but mental concentration was found to be impossible. His attention could only be secured for a few seconds at a time, when he would again relapse into a semi-conscious condition. The left arm and leg were much weaker than the right, with a tendency to flexor contraction of the arm at the elbow. The face did not seem affected. The right knee-jerk was increased; the left greatly exaggerated. Ankle-clonus was absent on the right, but decided and continuous on the left. The right plantar reflex was very slight, the left absent. The right cremasteric was present, the left absent. The extensor reflexes of the forearms were normal on the right; exaggerated on the left. The biceps and triceps reflexes were normal on the right; exaggerated on the left. On account of the man's mental condition it was found impossible to test the acuity of vision, but he was found completely hemianopic in the left half of each visual field. All of the external and internal ocular muscles seemed to be about normal, except that the pupils responded slowly to light. Careful test was made for Wernicke's pupillary reflex, but this was not found.

All forms of sensation seemed to be lessened or almost destroyed in the left arm and leg and throughout the left side of the trunk, but slight irritation of the left side of the face was felt; sensation was, so far as I could determine, normal on the right side. Hearing with the watch, R. = 1/2; L. = 1/4; the tuning-fork was heard better with the right than with the left ear. The man was able to smell asafetida with either nostril, but the mental condition was too much obscured to compare the acuity of smell on the two sides; neither was it possible to test satisfactorily the sense of taste. Dynamometer: R. = 112; L. = 0. On further examination the left arm was found firmly adducted to the chest by contractures of the pectoral muscles, and this continued during sleep. Both optic nerves showed slight swelling, with considerable atrophy, narrowing of the arteries, slight tortuosity of the veins, and almost complete obliteration of the normal line of demarcation between the nerve and the retina. The swelling of the optic disc amounted to one diopter in each eye. The temperature was 97.4°; the pulse 40; the respirations 16.

There was a very tight stricture of the urethra, and, on account of the difficulty of inserting a catheter, Dr. Munn fastened one in the bladder. The urine contained pus, albumin, and renal casts.

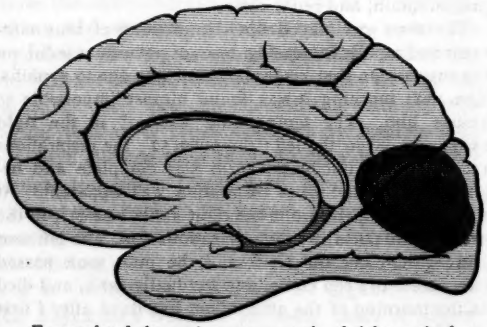
The man was placed upon inunctions of blue ointment and rapidly increasing doses of potassium iodid, on the supposition that his brain-lesion was due to syphilis. The next morning it was found almost impossible to arouse him. The temperature was 97° in the right axilla and 98° in the left; the pulse 52; the respirations 12. By noon unconsciousness was complete and beginning Cheyne-Stokes respiration was apparent. At 1 P.M. the temperature in the right axilla was 97°, in the left 98°; the pulse 46; the respirations 16. The left arm and leg had become rigid, and the man soon passed into a state of deep coma, and gradually sank, and died on the morning of the 28th, about five days after I first saw him.

During the first three days of the patient's stay in the hospital his temperature was subnormal by 1° or 1.5° on the unaffected side, and about 0.5° on the paretic side, whose muscles were contractured and rigid. Pulse and respiration were slow, the latter at times being only ten per minute. During the first three days the pulse was never found above 50, the average frequency being about 44, although occasionally it was as low as 40. At no time was there complete paralysis of the arm or leg,

but both were in a paretic condition, and the muscles rigid and contractured, and this condition increased up to a day or two before dissolution. On the fourth day the temperature reached normal, the pulse 64, the respirations 20. On the fifth day the temperature was 100.4°, the pulse 136, the respirations 48. On the morning of death the temperature was 104.6°, the pulse uncountable, and the respirations 56.

An autopsy was held six hours after death by Drs. Axtell and Freeman. The dura was normal in appearance and in attachment to the bones, and no adhesions between it and the thin membranes existed. The superior longitudinal sinus contained a soft white clot in its anterior portion. The coagulum was an inch-and-a-half long and non-adherent. All the other sinuses were free from clots or other evidences of disease. On removing the dura the cortical veins over the left convexity were found to contain dark non-adherent clots. All the cortical veins were distended with fluid blood. No evidence of disease of the pia was apparent. The walls of the right middle cerebral artery presented several thickened areas before giving off the nutrient arteries to the great ganglia. On exposing the interior of the right cerebral hemisphere by several longitudinal incisions a large abscess, oblong in shape, about two-and-a-half inches in width, was found encapsulated in the centrum ovale of the temporal and parieto-occipital region. The purulent accumulation extended forward from the cortex of the posterior portion of the occipital lobe to a point half-an-inch or more in front of the parieto-occipital fissure. About a quarter-of-an-inch of brain-substance intervened between the abscess and the posterior horn of the lateral ventricle. Neither the ganglia nor the cortical substance of the brain was directly invaded by the abscess. The capsule was dark, almost black, quite thick and had not ruptured. The pus, thin in certain portions and rather thick in other places, especially near the walls of the capsule, was light olive-green in appearance, and of a very offensive odor. The brain-substance was softened from the posterior portion of the

FIG. 1.



Encapsulated abscess in centrum ovale of right cerebral hemisphere.

occipital lobe forward to the region of the insula. The softening included both the cortical and the white substance, and to some extent also the great ganglia. The left hemisphere, the ventricles, the cerebellum, pons, and medulla showed no evidence of pathologic change. The bones of the nose and ear, on careful examination, were found free from disease. Unfortunately the body had to be shipped a considerable distance for burial and permission could not be obtained to examine any organs besides the brain. I neglected to have culture-tests made with the pus.

The difficulties in the diagnosis of the exact nature of this case, even if aided by an accurate history, would have been very great, but in the absence of this important aid they proved insurmountable, although, on learning, after the patient's death, the history of the injury to the head, I was not surprised to find an abscess at the post-mortem examination.

The three pathologic conditions discussed in attempting to reach a diagnosis were thrombotic softening, tumor, and abscess. The history of syphilis was in favor of thrombosis, but the severe headache, extending over a period of one or two months, the rapid emaciation, and the slow pulse and respiration seemed sufficient to exclude such a lesion. Normal or subnormal temperature may be associated with slow softening following occlusion of a cerebral vessel. From a number of observations, extending over a period of several years, I have been led to conclude that a sustained temperature of from a half to one degree higher on the paralyzed side than on the unaffected side, several weeks after the paralysis has become manifest, points to an irritative lesion of the brain as the cause of the paralysis. The choking of the discs was conclusive evidence of increased cerebral pressure, and I did not hesitate to exclude a vascular lesion from this symptom alone. Gowers states that choked discs may sometimes follow embolic occlusion of an artery, but such an occurrence must be exceedingly rare, as I have not observed it, although I have for more than fifteen years carefully and repeatedly examined the fundi of the eyes of every patient coming under my observation suffering from embolism of a cerebral artery.

The history of syphilis and of severe headache was in favor of a syphilitic growth, but the swelling of the optic discs was less than is commonly found associated with tumor. The marked emaciation and the low typhoid state could not be accounted for by the presence of a cerebral growth, but such phenomena are frequent results of renal disease, and these had their origin in this case, in all probability, in the stricture of the urethra and a sequential cystitis. Low temperature is common in tumor or abscess of the brain, and I have not infrequently found the temperature higher on the paralyzed side in hemiplegia of several months' duration, caused by a growth in the brain. In the absence of any obtrusive cause of suppuration a provisional diagnosis of a syphilitic tumor of the brain was made, and the patient was treated accordingly. I have rarely found muscles that were paretic, or almost completely paralyzed, become rigid and remain so for several days from the irritation of a cerebral growth, although I have observed this condition in several cases of abscess of the brain. The rigidity of the weakened muscles was well marked in this case, and it increased in intensity until a few hours before the patient's death. After obtaining, subsequent to the patient's death, the history of a blow on the head and an account of the symptoms that followed, including mental dulness, a confused feeling, and severe pain in the head, together with dizziness and emaciation, I was not surprised at the autopsy to find an abscess instead of a tumor.

The right lateral homonymous hemianopia, hemi-

paresis, and partial hemianesthia, without the involvement of the other special senses, enabled me quite definitely to locate the lesion. Had an abscess been diagnosticated on the patient's admission to the hospital, his extreme prostration and renal and cystic complications precluded any hope for relief from evacuating the contents of the abscess.

The probable source of infection was an injury to the tissues of the scalp, although this is merely speculative in the absence of a more thorough post-mortem examination, which was not possible under the circumstances.

CASE II.—John S., seventy-five years of age, white, a widower for a number of years, born in Ireland, by occupation a laborer, of large physique, resident in Colorado since 1870, was admitted to the Arapahoe County Hospital, January 22, 1895. The family history, so far as I was able to learn, was unimportant. His health in childhood had been good, and he had had no serious illness until his seventieth year. Earlier in life he had indulged rather freely in alcohol, but only rarely during the preceding five years. He denied syphilis, but admitted an attack of gonorrhea twenty years ago. He received a bullet-wound in the left shoulder in 1861 while in the army. With the exception of the time during which he was disabled on account of the wound he said that he was never sick a day in his life, until twelve years ago, when he was kicked on the left shin. The injury was attended with great pain. Later a large ulcer developed, which nearly healed at times, but for a number of years he had had a large open sore on this leg. One month before coming to the hospital, however, the ulcer completely healed, leaving a large, dark-colored, rough cicatrix which was very tender upon pressure. For some years the man had suffered from vague rheumatoid pains in the legs, especially in the knees and ankles, and in the entire left leg he had had a feeling of numbness for about five years. This leg seemed to him awkward, but he was able to walk with the aid of a cane. For a number of months there has been partial inability to control the bladder, and frequently he would soil the bedding and his clothes, and had to evacuate the bladder several times during the night. The patient says that he was struck over the lower portion of the back and nates by a cable-car early in January of the present year. He was able to rise and walk immediately afterward, and he did not think that he had sustained much injury, although pressure over the lower portion of the back gave him considerable pain. From the time of the accident he lost all control over the bladder, and the left leg was very weak. The left arm had been noticed to be weaker than the right. The patient had been obstinately constipated for a number of months. The right pupil, which was widely dilated and immobile, had been so for a number of years in consequence of an injury to this eye received eleven years before.

On examination, January 22, 1895, it was found that the man was unable to stand on account of the weakness of the left leg, and the examination had to be conducted while the patient was lying in bed. An old scar was observed on the anterior surface of both legs below the knees, and was evidently the result of old ulceration. The arteries of the extremities were hard and unyielding. The left leg was very weak, but could be moved at all the joints, although the power was feeble and the movements were ataxic. The muscles of the ankle of the left leg were weaker than those of the knee, and the latter weaker than those of the hip. Muscular power seemed to be fairly good in the right leg. The left arm was weaker than the right. Dynamometer: right, 100; left, 40. There was slight rigidity in the left arm, with a tendency to hold the arm close to the side of the chest and flexed at right-angles at the elbow. The mental condition seemed feeble; concentration of mind was very difficult; and it was almost impossible to keep the attention on one subject for more than a few minutes at a time. There was considerable loss of sensation throughout the left side, apparently more pronounced in the arm and leg than in the face. The knee-jerks were present, the left slightly increased, while the right was less than normal. The plantar reflexes and the tendo-Achillis reflex were present; ankle-clonus was absent. The cremasteric and the abdominal reflexes were absent. The external ocular muscles seemed to act normally. The right eye was cataractous, the pupil being widely dilated and not responding to light or in accommodation. The left pupil was very small, and did not respond to an active mydriatic, so that an examination of the fundus of either eye was not possible. There was apparent left lateral hemianopia of the left eye; the fields of the right could not be tested on account of the presence of the cataract. The mental hebetude was too great to permit of an accurate examination of the special senses.

The temperature was 98.2°; the pulse 60; the respirations 24. During the first week of the man's stay in the hospital his temperature varied from 98° to 99.2°, usually being about 98.4° in the morning, and from 98.8° to 99° in the evening; the pulse ranging from 54 to 90, only falling to 54 on one occasion, to 60 on three, and to 66 on two, the usual variation being from 72 to 88; the respiration varied less than the pulse, ranging, except on two evenings, from 18 to 20. A record of temperature, pulse, and respiration was made twice daily. During this week the man gradually failed both mentally and physically. He soon lost all continuity of thought, and his mind was a complete blank for any event of recent occurrence. He ate but little, emaciated rapidly, and passed the discharges from the bladder and the bowels into the bed. During the second week, from January 29th to February 4th, there was continued gradual failure. The temperature ranged from 98° to 99.4°; the pulse between 60 and 80; the respirations between 18 and 20. During the third week prostration increased rapidly, and the mind became a total blank. The temperature was a little lower than during the preceding week, rising above 98.4° only once, when it reached 100° one evening, but most frequently it registered 98°. The pulse varied from 70 to 96, averaging about 80, and was weak and compressible; the respiration ranged from 20 to 36. The rigidity of the left arm and of the leg-muscles became more pronounced. On February 12th the patient passed into a deep comatose condition, the muscular rigidity began to relax, and at 5 P.M. the temperature was 99°, the pulse 100, the respirations 24. The next morning at seven o'clock the temperature had reached 101.4°, the pulse 120, the respirations 40; and at 5 P.M. the temperature was 105°, the pulse 130, the respirations 36. Death took place during the night.

The post-mortem examination was made about twenty hours after death by Dr. Leonard Freeman,

pathologist to the hospital. The dead-room was cold and the body thoroughly frozen. Unfortunately, only the contents of the cranial cavity were examined. The adhesion of the dura to the bones was not abnormal. The membranes and the cortical surface of the brain, on both the convex and basilar surfaces, showed no evidence of disease. The vessels were atheromatous, but not to a pronounced degree for one seventy-five years old. On sectioning the left cerebral hemisphere no gross pathologic change was found, but in the right hemisphere an encapsulated cavity, about two inches in diameter, containing a foreign substance presenting an appearance almost identical with orange water-ice, was found in the centrum ovale of the parieto-occipital region. The greater portion of the pathologic process had taken place in the occipital lobe. The lateral ventricle had not been broken into, but only a very thin partition of brain-substance intervened between the cavity and the posterior horn of this ventricle. None of the cortical substance of the brain had been directly involved by the foreign substance, which was so situated as to exert pressure on the right internal capsule. Dr. Bane, at my request, made a drawing of the cavity, *in situ*, before its contents were allowed to thaw.

FIG. 2.

1. Abscess. 2. Posterior horn of lateral ventricle.

No evidence of gross disease was found in any other portion of the brain. In the frozen state it was impossible to determine whether the lesion was a cyst or an old abscess. The melted contents of the cavity presented the appearance of a watery straw-colored liquid, and seemed to be the product of a cyst, but the microscope showed numerous granular and broken-down pus-cells, proving the lesion to be a chronic abscess. There was no odor. After warming the brain the right hemisphere was found to be much softer than the left, but the extent of the ante-mortem softening could not be determined, as brain-substance softens so rapidly on being warmed after it has been frozen. The bones of the ears showed no evidence of disease.

Although I had had an opportunity of studying this case for a period of three weeks, the presence of an abscess of the brain had not been suspected before death, and the discovery of one at the autopsy was a great surprise to me. The age of the patient, the atheromatous condition of the radial arteries, and the comparatively sudden onset of the paretic condition with the subsequent symptoms of cerebral softening, led me to diagnosticate arterial thrombosis. The temperature was normal or nearly so, as is common to both abscess and slow necrotic softening taking place after occlusion of a cerebral artery. I regret that I did not make a careful comparison of the temperature in each axilla. It is probable that the temperature would have been found higher on the paralyzed than on the unaffected side. In hemiplegia from necrotic softening it is likely that this difference of temperature in the two axillæ does not exist to a marked degree, and when present is not persistent, except possibly when the lesion causing the softening is an irritative one, as sometimes happens in acute softening from obstruction of large vessels. The history of a fall did not militate against thrombosis, as the head did not appear to have been injured at the time, and it is not infrequent for occlusion of a cerebral artery in the aged to be preceded by increased physical exertion, which may or may not be a contributing influence in the final closure of a narrowed vessel. As it was impossible to obtain a view of the ocular fundi, the condition of the discs could not be ascertained. The absence of headache was in favor of a vascular lesion, and against abscess or tumor.

In a man seventy-five years of age, presenting a hemiplegic lesion, in the absence of a growth or the history of one in other portions of the body, the presence of tumor of the brain will not be suspected.

While no age is probably exempt from abscess of the brain, the infrequency with which it occurs in extreme old age made it improbable that I should meet with it in a man seventy-five years old. Of 223 cases of abscess of the brain, only one was found at the seventieth year or over. (Gowers.) There was no discoverable cause for cerebral suppuration. There was no discharge from the ear and no history of any. The nose seemed to be free from infective material, and no evidence of a purulent accumulation in the thoracic or abdominal cavity was detected. In reviewing the history of the case after the autopsy revealed an abscess of the brain, it has occurred to me that the large open sore on the leg might have furnished the portal of entry for the infective material with which the brain-substance became infected. The ulcer had given trouble for a period of twelve years, but it had entirely healed, the man said, a month before he came to the hospital. The appearance of the cicatrix indicated that the sore had been healed several months. It is probable that as his memory for recent events was greatly impaired on his entering the hospital, events that occurred months or years before appeared to his mind of a later date. This loss of time-sense is common in dementia, especially of the senile variety. We must remember that the left leg had appeared numb, weak, and awkward for a period of five years, and for a number of months the man had lost partial control of the bladder. The capsule of the abscess and its contents indicated that several months at least had elapsed since the cerebral suppuration had begun. What part the blow upon the lower portion of the spine had to do with causing the abscess it is impossible to say. No tenderness of this portion of the spine was detected at the time of my examination. If the blow was received only two weeks before the man entered the hospital, as he states, it is quite evident that it played no part in the causation of the cerebral suppuration, but, as

before stated, his time-sense for recent events was impaired and no reliance could be placed upon his statements relating to time, especially for things of comparatively recent date.

Had the diagnosis of cerebral abscess been made on the patient's admission into the nervous wards of the hospital, I should have urged a surgical operation, as no hope could be entertained without the evacuation of the abscess, although the extreme age and prostration of the patient would seem to have precluded almost the possibility of recovery under such unfavorable circumstances.

CASE III.—E. P., a male, thirty-seven years of age, born in Germany, a tailor by occupation, had lived in Colorado four years. The family history shows tuberculosis, renal and cardiac troubles in several members of the family. The patient's health in childhood was fairly good; he suffered from measles and scarlet fever when a child, but never had any ear-trouble. His habits have been bad; he has been a free drinker; has suffered several times from gonorrhea, and contracted a hard chancre about ten years ago. He never received a blow upon the head or a severe blow upon any portion of the body, so far as he knows. About eighteen months before I saw him he suffered from a severe "cold," and this was followed by prolonged purulent bronchial expectoration. Soon after this he began to complain of headache. His general health failed; he lost health and strength, and his mental power was weakened. He consulted a physician, who, on account of his syphilitic history and head-pains, treated him with potassium iodid for a number of months. His head-pains greatly lessened, but did not entirely subside, and he continued rather weak. His appetite was poor and vacillating, his bowels were constipated, and he was unequal to his work, both mentally and physically. He found it an effort to perform the merest routine duties of his shop, and it was distressing to him to make any mental effort. He continued in this condition for some fourteen or fifteen months, when his headache again increased, mental confusion became greater, and he felt a sense of physical prostration continually. Sleep was poor; he passed restless nights, became very much emaciated, and the headache was at times distressing. The man was again treated for syphilis of the brain, and again temporarily, but only slightly, improved in health. He became drowsy and had to discontinue his work. With the exception of taking occasional short walks, he remained in his room the most of the time for two or three days. After passing a rather restless night he arose in the morning to dress himself, but before he had completed his toilet he fell to the floor, and when found, several hours afterward, he was mentally confused and unable to rise.

I saw the man a few hours later, when he was lying quietly in bed, apparently sleeping. There was a little stertor in his respiration; his temperature was about one degree below normal in the right axilla and half a degree in the left. The pulse was 60, full and strong; and the respiration was 12 per minute. He was easily roused from his soporose condition, and seemed for a moment to appreciate what was said to him; but if left alone, he almost immediately relapsed into an unconscious state. The left arm and leg were almost completely paralyzed, the paralysis being more pronounced in the leg than in the arm, but the face did not seem to be affected, and the tongue was protruded in the median line.

It was impossible to test the general sensory phenomena, but, so far as I was able to determine, sensation was less acute on the left side than on the right. Both knee-jerks were increased, the left to a greater degree than the right. The plantar reflexes were absent. Ankle-clonus was slight on the right and well pronounced on the left. The cremasteric and abdominal reflexes were barely perceptible on the right side and absent on the left. The pupils were equal and rather widely dilated, and reacted but feebly to light. There was no paralysis or paresis of the external ocular muscles. Both optic nerves were slightly atrophied, with some swelling of the discs, greater on the right side than on the left. There was apparent left lateral homonymous hemianopia, but it was difficult to test the visual fields accurately on account of the blunted mental state of the patient. The urine was free from albumin and sugar, and no râles were detected in the lungs. Headache was not spontaneously complained of, but on rousing the man and asking him if he had any pain, he said "yes," and pointed to his head. The stupor gradually deepened into coma; the temperature continued subnormal for several hours; respiration rapidly increased; the pulse became frequent; and death took place twenty-four hours after the first manifestations of hemiplegic symptoms. The temperature before death was 103° in each axilla.

The autopsy, which was held a few hours later, revealed an encapsulated chronic abscess in the centrum ovale on the right side. The abscess was oblong in shape, about two-and-a-half inches in its long diameter by two inches in its transverse. It was surrounded by dense fibrous walls, and extended posteriorly well into the occipital lobe, and anteriorly into the centrum ovale of the tempero-sphenoidal and parietal lobes. The cortex of the brain was not directly involved, nor was the internal capsule, but a thin layer of brain-substance intervened between the lateral ventricle and the abscess. The pus was thick, greenish, and offensive. The entire right side of the brain presented an edematous appearance. No pathologic changes besides these were found in the brain. On examination of the mastoid cells and the interior of the petrous portion of the temporal bones no evidence of disease was discovered. Permission was not granted to examine any other portion of the body.

It is impossible to discuss the probabilities of arriving at a diagnosis during the time of the formation of the abscess, which possibly dated back some fifteen or eighteen months before the patient's death, or about the time of the beginning of the head-symptoms following a purulent discharge from the lungs. When I first saw the man, a few hours previous to his death, the diagnosis lay between a vascular lesion, tumor, and abscess. The eye-changes were sufficient to exclude a vascular lesion as a cause of the prolonged symptoms. The syphilitic history and the marked amelioration of the symptoms from the use of potassium iodid pointed to a tumor of a syphilitic nature, but the choked discs presented less swelling than is commonly observed in cases of progressive tumor of the brain. I have previously reported[1] a case whose history was somewhat similar to that in this case. In that patient the swelling of the

[1] THE MEDICAL NEWS, March 10, 1894.

optic disc was well marked, a tumor was diagnosticated, and the autopsy revealed the presence of a growth, connected with which was a small focus of suppuration. Nothwithstanding the strong probabilities of a syphilitic growth, the history of a purulent bronchial discharge immediately preceding the development of cerebral symptoms and the slight swelling of the optic discs determined me to venture the diagnosis of chronic abscess.

On first seeing the patient an operation was out of the question, as he was then dying from edema of the brain, which had resulted from the existence of the abscess. A post-mortem examination of the lungs would have been interesting and might have aided in determining the source of the infection, but unfortunately a thorough investigation was denied.

The three abscesses, an account of which has been given in this paper, all occurred in the right cerebral hemisphere, all occupied nearly the same position in the centrum ovale, were all attended with left lateral homonymous hemianopia, with great weakness of the left arm and leg, the loss of power being greater in the leg than in the arm, the face escaping almost entirely, and with sensory impairment on the left side. The infective material in two was probably derived from distant suppuration, and in one from an injury of the scalp, although the incomplete post-mortem examination renders this uncertain.

THE CONTINUED FEVER OF ENDOCARDITIS.[1]

BY WILLIAM S. DISBROW, M.D., PH.G.,
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THE subject to which I desire to call attention presents points of interest that I consider worthy of note, on account of its rarity (judging from reported cases), the difficulties associated in its diagnosis, the length of time it involves, and the various views held by different diagnosticians of recognized reputation.

The first case of which I find record is that of Dr. Mullin, of Hamilton, Ont., quoted by Professor Osler in his report of a case under his care, and which is in many respects closely similar to the one that I desire to report.

In June, 1892, I was called to see a woman suffering from some slight pharyngeal trouble, but was unable to account for the rigors and fever with which it was associated, all out of proportion to what would be expected, even assuming the throat-condition to be other than benign in character. The patient had for three months previously been under the care of a physician of long experience and of sterling worth, who had recognized that she had valvular heart-disease, but owing to his illness and death I became the medical attendant. She had at the time of my first visit a slight pharyngo-laryngitis, which soon yielded to proper treatment; but I was surprised to find that the fever continued, together with marked debility, greater in degree than would be anticipated in such an apparently trifling illness.

On further inquiry it was learned that the woman was forty-five years old and married. Her father had died from pyemia, secondary to an accident to one of his fingers, and her mother had died at the age of fifty-six years, of pulmonary tuberculosis, secondary to pneumonia.

About twelve years previously the patient had had a severe attack of articular rheumatism, from which she suffered for several weeks; but from that time had been in fair health, with the exception of more or less pain in various joints of the body and stomach, and what had been diagnosticated as gastralgia by Dr. Janeway, of New York, whom she had consulted; he at that time recognized the valvular trouble, but considered it as the sequel of her rheumatism, and that it was not accountable for the pain from which she was then suffering.

The fever continuing—constantly for days, then intermitting—latent tuberculous trouble was suspected, and a careful physical and bacteriologic examination was made, but nothing was found to indicate this as being the cause of the fever.

Malarial toxemia was next considered, owing to the character of the fever; the chills, which had become more numerous than before, sometimes recurring daily, and at other times being of a tertian type; the temperature ranging from 102° to 102.5°, but without intermission, occasionally in the morning 102° or 103°, but during the afternoon lower. Treatment for malaria was instituted, and pushed to the utmost limit for about a week, but with no result, the fever showing no appreciable change, while the chills, though slighter in character, were not controlled.

The symptoms having thus continued for about a month without improvement, Dr. Lippman, of New York, was called in consultation, but could find no apparent cause for the condition.

Meanwhile the patient was able to be about, and had sufficient strength to walk, and even to take short rides into the country. It was thought advisable to send her out of the city, and this was done. Mt. Pocono was selected as being the most suitable place, but after staying there for about three weeks she returned, but without improvement. She then for some time resided at Lakewood and also at Asbury Park, N. J., but with no resulting improvement, except a slight gain in appetite, and an altered mental condition, which had been tried to its utmost, and discouragement was now displacing hope.

In August the woman complained of pain in the shoulder and ankle, which were slightly swollen, and soon more marked rheumatic symptoms developed, with an increased pulse and higher temperature, with occasional chills. These symptoms soon passed away, only to return again in a week or so, although at the time the treatment was of an anti-rheumatic character.

Suspecting—although nothing indicated any trouble of a surgical character—that I might have overlooked some foci of suppuration, Dr. Weir, of New York, was called in consultation, and upon careful examination found no surgical cause for the trouble, and expressed his inability from his standpoint to enlighten me, but he favored the diagnosis of malarial poisoning.

Dr. Edward J. Ill, of Newark, a gynecologist of wide experience and ability, was now called, but could find nothing in the genital organs to account for the very annoying condition with which we were confronted. Dr. Ill and myself, upon examination of the chest, thought we could detect slight dulness in the right infrascapular region, and considered that it might be due to pleuritic adhesions, if not to some more extensive infiltration of the lung-substance, and again the question arose, Was the trouble not tuberculous?

[1] Read before Practitioners' Club, March, 1895.

The valvular lesion was of course noted by all, but was not considered as bearing a causal relationship to the present illness. The fever continued without signs of abatement; at times the temperature would show some indications of remaining at the normal, but only to rise to a higher level.

In November, while in despair as to what to do, it struck me that the heart might be primarily at fault. I made a diagnosis of endocarditis, possibly ulcerative, on the ground of the well-known heart-trouble, the recurrent attacks of rheumatism, the character of the fever, and by excluding all other conditions likely to give rise to similar symptoms. Salicylates were again tried more persistently, and for the first time since June the temperature was reduced for a few days to normal, and at times below normal, but it could not be kept down, rising on an average to 99° or 100° during the day.

Being now satisfied of the correctness of my diagnosis, Dr. A. L. Loomis, of New York, was asked to see the case in consultation. Upon careful examination he found no evidence of tuberculous trouble, and, while admitting that the valves of the heart were damaged, considered that they had nothing to do with the fever, and that the case was one of auto-intoxication, due to a gouty or rheumatic condition of the patient, and recommended thorough intestinal antisepsis. All of these suggestions were carried out, but without result. The fever continued the same; the urine was normal; the nutrition was fair, although the patient was getting weaker. These conditions continuing a few weeks longer, Dr. George S. Ward saw the case in consultation and considered malarial poisoning as the possible cause.

In January, 1893, the patient began to fail rapidly. The temperature could be kept near the normal with salicylates or quinin, but the heart-sounds were rougher, and the condition was becoming alarming, the temperature at times rising to 103° or 104°, and chills recurring every day or two. Everything that could be suggested was tried, but in vain. About one week previous to death the patient had a severe chill, followed by a temperature of 104.5°; the face became slightly edematous, the ankles and legs swollen, the pulse weaker and showing signs of failing compensation; the urine scanty, albuminous, and bloody, and it was evident that the end was near. Dr. J. C. Young, of Newark, was in attendance the last few days of her life, and concurred with me in the diagnosis of endocarditis.

On February 24th the mind was cloudy; the urine became still more albuminous and bloody, the edema more pronounced, and death took place in coma on February 26, 1893.

An autopsy was held nine hours after death, with the assistance of Dr. Young. The body was fairly well nourished. The liver and spleen were enlarged and hyperemic. The spleen weighed about twenty ounces, and upon its superior border was an old infarction about the size of a silver half-dollar. Lungs, pleura, and bronchial glands were normal. The pericardium contained about four ounces of fluid and was marked with some old inflammatory scars.

The heart was hypertrophied; the mitral valves were greatly eroded and studded with large granular deposits; the chorda tendinea of the middle valve was so eroded as to be entirely severed, the free ends hanging into the cavity.

The kidneys were engorged, and were of the large white variety. The rest of the body, with the exception of the brain, which was not examined, was to all appearances normal.

With the post-mortem findings as noted, the only inference to draw is that in the presence of an old endocarditis may we not have had an acute inflammation of an ulcerative character grafted upon it, and that the case is one of those rare instances in which long periods of fever are associated with indications of heart-trouble.

Strümpell[1] states that "the recurrent form of acute endocarditis consists of an acute increase of the endocardial process, brought on by some exciting cause in an organ already suffering from endocarditis. The acute disease may show all the gradations from the mildest grade to the severest forms. The mild cases often run their course without any special symptoms. To this form we must probably often refer the increase of fever, which lasts a longer or shorter time, and which we often see in patients with chronic valvular disease of the heart. In rarer cases the recurrent endocarditis comes on quite suddenly in the form of a severe acute disease. This sometimes seems to be clinically a primary, independent disease, especially if the previous chronic heart-disease has up to that time caused no special symptoms. The patient is attacked with general malaise, headache, chills and fever. The latter may be quite high—104° (40° C.) and over—or moderate, varying between 100° and 102° (38°–39° C.), or it may be entirely absent. In many cases it is intermittent when the increase is often associated with a chill. The symptoms in the heart may be quite pronounced, but in this form, too, they may be obscure and indefinite. The course is rarely rapid, and often lasts for weeks. In the further course of the disease we meet with cutaneous hemorrhages, retinal hemorrhages, articular swellings, large renal hemorrhages, or typical hemorrhagic nephritis—in short, just the same general type of disease as in the other malignant forms of acute endocarditis."

In considering the history of these most interesting cases, we are prone to ask why they should be considered as acute; for certainly a valvular trouble lasting a year would be more appropriately classed as chronic, and on this point Osler, in commenting upon the case of Dr. Mullin, in which the fever lasted for more than a year, and in which the autopsy showed extensive vegetations upon the mitral valves, states that the term acute is scarcely applicable to them, and further remarks that cases in which patients with chronic valve-disease are attacked with marked fever, and evidence of recent endocarditis, may present symptoms of a pyemic or a typhoid character and may run a most acute course, but those lasting weeks or months assume rather a chronic character. Quoting from Loomis, Osler states that when an individual already suffering from valvular disease of the heart is attacked with acute rheumatism the liability to acute endocarditis is increased, and even when rheumatism is absent acute endocarditis is liable to occur in the presence of old valvular disease.

In reviewing the case here recorded, the temperature-range, extending over nine months to my personal knowledge, during which a careful record was kept, was the most pronounced feature, averaging from 101° to

[1] Text-book of Medicine.

101.5° through out that time, the chills and the articular symptoms being concomitant and troublesome.

Despite the old valvular trouble, followed by acute attacks of endocarditis, the cardiac compensation would possibly have continued for a still longer time had not the rupture of the heart-muscle brought on the crisis. The lesson to be learned from this case is that we must not be satisfied to ignore old valvular lesions of the heart, but should be watchful lest they assume renewed activity.

151 ORCHARD STREET.

EXPERIMENTAL NOTE.

SOME EXPERIMENTS WITH TEA.

BY PETER McKECHNIE, M.D.,
OF TALAWAKELA, COLOMBO

THE following results may be interesting to members of the profession. They represent the outcome of an inquiry into the action of tea on the digestive organs.

The trial-experiments were carried on with test-tubes, a digestive fluid being prepared by making a glycerol extract of pepsin. The aliment used consisted of beef-fiber and egg-albumin. Measured quantities of each were used, and to six test-tubes contalning the meat-fiber were added the glycerol extract and hydrochloric acid, also a measured quantity of tea, different lengths of time being given to each infusion, varying from five to twenty minutes, so that the different test-tubes each had a different degree of strength of tea. A seventh tube was used to fix the time required for the digestion of the meat-fiber alone, which proved to be about 110 minutes. With the tea added to the other test-tubes the time required for the digestion of an infusion of twenty minutes was the same as with one of five minutes, namely, 118.5 minutes. Another experiment was made on the same basis, but with the tannic acid precipitated by means of a gelatin solution. The result of this showed no appreciable difference in the time taken to digest that with tannic acid and that without tannic acid.

The experiments were carried still further by means of a gastric fistula formed in a monkey's stomach. It was found on introducing the ingesta by the mouth that digestion was retarded about five minutes longer than when the ingesta and the tea were introduced through the mouth and the fistula respectively, thus showing that the tea exerts an inhibitory influence upon the salivary glands. When the tannic acid was precipitated and introduced in the same manner there was no difference in the time occupied in the digestion of the tea without tannic acid by the mouth as compared with that by the fistula, but there was an appreciable difference on the introduction of an infusion of twenty minutes without tannic acid as compared with an infusion of five minutes with the tannic acid removed. The peristaltic action was retarded and the secretion of gastric juice diminished. I am of opinion that the tannic acid in the tea is not the injurious agent, but some of the less soluble extractive matters.

With a view of ascertaining the value of the teas of different countries as dietetic agents I procured samples of Chinese, Ceylon, and Indian teas, and carried on experiments with them, an infusion of equal quantities of each kind being used. The Indian and Ceylon teas gave a much stronger infusion in five minutes than the Chinese teas; I found that digestion took place more quickly with the stronger infusions than with the weak. The secretion of gastric juice was increased considerably with the Indian and Ceylon teas.

The reason I attribute for this is that Indian and Ceylon teas contain a much higher percentage of caffein than Chinese teas, thus acting as a stimulant to the motor nerves and increasing the peristaltic action and flow of gastric juice.

From the results of my observations I am inclined to think that the action of tea is not so injurious as some would like to make it out. It is greatly dependent on the method of infusing, whether its action is injurious or beneficial. Long-infused teas seem to extract some substance, possibly an alkaloid, that has an inhibitory action on the nerves of the stomach. I may here state that an infusion of tea of twenty minutes with the tannic acid precipitated has the same bitter taste as the same tea with the tannic acid present, so that the bitterness in long-infused tea is not due to the tannic acid, but to some other ingredient.

The method of preparation of the tea-leaf is another point that requires attention. Indian and Ceylon teas are prepared on a more highly scientific basis than those of Japan and China. The curling of the leaf is done in the first-mentioned countries by means of machinery, by which means the cell-walls are entirely broken up; while in China and Japan the rolling is done by hand, which is a most imperfect method from an economic point of view, owing to the greater surface exposed. Through the entire breaking up of the cells in Indian and Ceylon teas, less tea requires to be used in order to get the same result as in Chinese tea; thus with three pounds of either Indian or Ceylon tea the same amount of work can be done as with five pounds of China. In my experiments I found that an infusion of Indian and Ceylon teas in the proportion of forty-five grains to ten ounces of water gave a solution of the same specific gravity as an infusion of Chinese tea consisting of sixty grains to ten ounces. The experiments carried out with these infusions showed a marked superiority of the Indian and Ceylon teas in assisting digestion. On making a microscopic examination of the leaves after drying them, I found that in the case of the Ceylon and Indian leaf the water had extracted the free tannic acid, while in the Chinese teas there could be observed needle-shaped bundles within the interstices of the cells.

I think that it would be advisable for medical men in studying the dietary of their patients to caution them against the use of long-infused teas. If a patient has tea which requires long infusion, there is something wrong, as the active principles can be extracted in five minutes from really good teas. Longer infusion is most injurious; in fact, with Indian and Ceylon teas three minutes are quite sufficient. I shall continue my researches, and intend to study more of the chemistry of tea and its physiologic action on the nerve-centers.

Eye, Ear, Nose, and Throat Clinic is the title of a new quarterly publication emanating from Kansas City, Mo., and edited by Drs. Flavel B. Tiffany and James E. Logan, and containing a department of neurology under the charge of Dr. John Punton.

NEW DEVICE.

A NEW COVER-SLIP FORCEPS.

BY A. H. STEWART, M.D.,
OF PHILADELPHIA;
INSTRUCTOR IN CLINICAL MICROSCOPY, JEFFERSON MEDICAL COLLEGE.

As the microscope comes into more general use by the physician, and as the study of bacteriology has become so necessary, new devices are constantly being brought forth to aid in research. Many new instruments are needed; many old ones have become useless.

There is no one instrument that is used by bacteriologists so frequently as cover-slip forceps; but every microscopist knows how inefficient are the cheap varieties and how comparatively expensive are the good ones, and none is entirely satisfactory.

The forceps here illustrated has proved in my work more generally satisfactory than any other yet seen. It is made of coppered steel wire or German silver wire, and can be manufactured for about one-fifth the cost of the orignal Lindslay or the Cornet nickel-plated steel forceps, and is just as steady and durable. The spring is sufficiently strong to hold firmly a slide or cover-glass without allowing it to move from side to side and yet

not powerful enough to break the glass. The blades of the forceps are locked, thus giving a perfectly steady movement and constant apposition when not in use. The extremities of the blades are small and circular and are made in such a way that the cover-slip held in position has a slight inclination downward away from the instrument, so that the stain when placed upon the cover-glass does not run down on the lower blade of the forceps, even when the blades are moist.

When placed upon the table there is no tendency for the instrument to upset, the base being more than an inch wide, and when placed upon the side the cover-glass escapes injury, not striking the table because that end of the forceps is overbalanced by the other.

The comparative cheapness and durability of this forceps will recommend it as a most valuable instrument, not alone for ordinary private work, but in large laboratories where many men are at work, and large numbers of such instruments are required.

It is manufactured by Bausch & Lomb, of Rochester, N. Y., and can be procured from dealers in microscopic supplies in Philadelphia.

250 NORTH TWELFTH ST.

MEDICAL PROGRESS.

In the Treatment of Fracture of the Patella FOWLER (*Annals of Surgery*, vol. xxi, No. 6, p. 627) recommends exposure of the fragments after the immediate effects of the injury have subsided, and before the occurrence of ligamentous union, for the purpose of clearing their surface of intervening soft parts, and the application of fixation-hooks somewhat resembling Malgaigne's, except that a single instead of a double pair is applied. The parts are kept at rest for from fourteen to twenty-one days, or sufficiently long to permit of the subsidence of the effects of traumatism upon the surrounding structures, as well as the closure of a possible rupture of the upper recess of the capsule of the joint. During this period of waiting the time is advantageously occupied by daily cleansing of the parts with soap and water, and the application of gauze compresses wet with borosalicylic solution, secured in position with a figure-of-eight bandage.

The operation-wound, by which access is gained to the fracture, is placed either transversely or vertically; if transverse, it commences at the inner edge of the patella slightly above its middle, curves sufficiently downward to include beneath the flap the line of fracture, crosses the front of the lower fragment just above the attachment of the ligamentum patellæ, and ascends to terminate at a point opposite the place of commencement. The half-moon-shaped flap thus marked out is dissected back just far enough to expose the line of fracture and no further. Careful and systematic removal from between the fragments of the intervening mass, consisting of stretched and torn shreds of fibrous tissue and partially organized blood-clot, is now practised. This is greatly facilitated by first incising along the free margin of each fractured surface and loosening the mass at these points first. The blade is now slipped between the mass and the fractured surfaces, and the former freed from the latter without difficulty, and removed as one piece. Care is taken during this portion of the operation not to tilt or otherwise disturb the fragments, and to expose the joint-surfaces as little as possible. No irritating fluid should be employed; whatever portions of the *débris*, blood-clots, etc., which may chance to fall into the gap between the fragments, and cannot be picked out by the dressing-forceps, may be removed with bits of sterilized gauze grasped between the blades of hemostatic forceps.

The fragments are now made to approximate each other as much as possible. One of the fixation-hooks is thrust into the bone at the site of the attachment of the ligamentum patellæ to the lower fragment. The other is pushed through the skin and into the bone at the site of the attachment of the rectus femoris to its upper border. With the fractured surfaces in perfect coaptation, as seen with the flap still turned back, the shanks of the fixation-hooks are drawn together and secured, and the fragments held in a most secure manner. Two or three very fine silk sutures may be employed to secure the edges of the soft parts along the line of fracture. The flap is now replaced and sutured with a continuous subcuticular silk suture. Sterile gauze-dressings and non-absorbent cotton, secured in position by rollers, are applied; and a plaster-of-Paris splint insures immobilization. If the curve of the transverse incision is properly managed, the lower hook will be so placed as to secure the bone directly in the line of the incision, thus avoiding the passage of the former through a wound of its own in the skin. If the vertical incision is employed, both upper and lower hooks can be secured in the bone in the line of the incision. The transverse incision (U-shaped) gives better access to the parts if well curved.

The fixation-hooks are permitted to remain for about

three weeks. Should it become necessary for any reason to remove them earlier, this can be done by opening the splint at the anterior knee-portion. The patient may recline, or sit, or go about in a wheel-chair during the convalescence.

Colectomy.—PAUL (*British Medical Journal*, 1895, No. 1795, p. 1136) details eight cases of colectomy for various conditions, and summarizes his views as to those which are most suitable for operation and as to the best methods of accomplishing this. He believes that young subjects with a comparatively short history, who are passing mucus and blood in the stools, and in whom the tumor is large enough to be felt, are the cases in which the growth is most malignant. Unless very large, the affected part can be safely removed, but recurrence must be expected. Older people, upward of forty-five years, with generally a longer history of gradually increasing constipation, frequently culminating in absolute and sudden obstruction, often have a ring-stricture, which is much less malignant, and when satisfactorily removed may undoubtedly be followed by permanent cure. Expression is given to a personal willingness to remove the growth in almost all cases in which there are no secondary deposits, but those who wish to select carefully should be content with colotomy in the former class, and restrict colectomy to the latter. Attention is directed to the frequency with which the abdominal pain (colic) and vomiting of the earlier stages of chronic obstruction are mistaken and treated for dyspepsia. The sooner the disease is recognized the better is the surgeon's chance of success.

The operation may be accomplished in two very different ways, one by immediate and one by delayed approximation, each being suitable for a certain class of cases. When the patient is in good condition, the abdomen not distended, the tumor small, and the proximal end of the bowel not greatly hypertrophied, immediate approximation by Murphy's button-method is advised. When, however, the opposite of this condition prevails, it is strongly urged that the ends of the bowel should be brought out. The important steps of the operation are as follows: 1. Exploration first in the middle line unless the stricture has been located; 2, a sufficiently free incision over the site of the tumor; 3, after adhesions have been cleared away, ligation of the mesentery with the help of an aneurism-needle and sufficient division to free the bowel well beyond the growth on each side; 4, hanging the loop of bowel containing the growth or stricture out of the abdomen and sewing together the mesentery and the adjacent sides of the two ends. The stumps of the mesentery should lie beneath the bowel, where, if deemed advisable, it can be drained by packing gauze down to it; 5, tight ligature of a glass intestinal drainage-tube into the bowel above and below the tumor and then cutting away the affected part; 6, closure of the ends of the wound with a few silkworm-gut sutures, passing through all the layers of the abdominal wall. The second stage of the operation, that of breaking down the spur with an enterotome, should generally be undertaken about three weeks later. As soon as this has been satisfactorily accomplished, the artificial anus is closed by separating the roset of mucous membrane from the skin, turning it in, and bringing the freshened edges of the latter together over it.

Absence of the Thyroid Gland in a Case of Cretinism Successfully Treated with Thyroid Extract and Fatal from Broncho-pneumonia.—BURCKHARDT (*Revue Médicale de la Suisse Romande*, June 28, 1895, p. 341) has reported the case of a child, three years old, presenting a well-pronounced clinical picture of cretinism, in which marked improvement in the symptoms and physical characteristics followed the therapeutic employment of thyroid extract. The treatment had thus been continued for three months, when death ensued in the course of an attack of broncho-pneumonia. Upon post-mortem examination most careful search failed to detect the presence of thyroid tissue, the gland being replaced by adipose tissue.

To Preserve Specimens of Urine, LEFFMANN (*Philadelphia Polyclinic*, vol. iv, No. 26, p. 271) has found chloroform to answer most satisfactorily, from six to eight drops being added to each ounce. It yields with Fehling's solution a reaction similar to sugar, but it does not react with the bismuth or the phenylhydrazin test nor prevent either of these when sugar is present.

THERAPEUTIC NOTES.

Forced Dilatation for the Relief of Diphtheric or Croupous Obstruction of the Larynx.—BORS (*New York Medical Journal*, June 29, 1895, p. 822) has treated a series of cases of laryngeal obstruction arising in the course of diphtheria and croupous laryngitis by means of forced dilatation. For this purpose he uses an instrument consisting of a three-bladed, jointed dilating-canula, attached to a bent shaft contained in an introducing-handle. After the canula has been introduced into the larynx the blades are separated by means of a screw situated under the handle. The application occupies but a few moments, and in the majority of cases a single dilatation is sufficient. Should the growth of false membrane constantly recur, the manipulation should be undertaken every two or three hours for two or three days. The same procedure may be adopted in cases of laryngeal stenosis due to syphilitic and other cicatrices. The instrument is made in three sizes, of 2½, 4, and 5 mm. in diameter.

A Simple Means of Preventing Nocturnal Enuresis.—STUMPF (*Münchener medicinische Wochenschrift*, 1895, No. 24, p. 560), from physiologic and dynamic considerations, proposes to treat nocturnal enuresis by depressing the head and elevating the hips of the sleeping child, and has employed the method in some twelve cases in individuals of various ages and of both sexes with the best results.

Pencils of Salicylic Acid.—

℞.—Salicylic acid	. . . .	20 grams.
White wax	. . . .	25 "
Lanolin	. . . .	55 "

—*American Journal of Pharmacy.*

In the Treatment of Aneurism COHEN (*Philadelphia Polyclinic*, vol. iv, No. 27, p. 282) employs hydrated calcium chlorid in doses of about a dram a day, in conjunction with rest and other suitable adjuvant measures.

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SATURDAY, JULY 27, 1895.

THE COMPARATIVE STANDING OF THE AMERICAN MEDICAL PROFESSION.

WE Americans have never been accused of being a too modest people. We have a due respect for our own achievements, and seldom hesitate to express it with vigor. But we are discriminating in our self-appreciation. We are just as keenly conscious of our defects as of our virtues, and as frank in bewailing them.

That is the real difference between us and the Scotchman or the German, for instance. These seldom brag, but that is merely because they are so calmly confident of their overwhelming superiority. No word from them is needed. They and theirs speak for themselves, and simply overawe with conviction any intelligent foreign mind. If you are not convinced, it's because you are not intelligent, and argument would be wasted on you. And they seldom or never invite the attention of the public to their defects, even when they see them, which isn't often.

One of the things over which we are particularly fond of indulging in jeremiads is the "low standing and standard of the profession in America." We bewail (and justly) the shortness of our college-courses, the lowness of our examination-requirements, the abundance, shamelessness, and prosperousness of our charlatans, both in the profession and out of it, and the scandalous popularity of the patent medicine. All this is perfectly true, and its recognition is good Christian discipline for us. But, not content with this, we plunge further and declare that such a disgraceful state of affairs was never known in civilized country. As usual, "they order this matter better in France," say we, and proceed to declare that in England and on the Continent all medical men are highly educated gentlemen, that self-advertising and violations of the Code are unheard of, and the patent-medicine nuisance almost abolished. And here is where we mistake. There is really no such tremendous difference as we imagine between the beam in our own eye and the mote in our European brother's. Each profession has simply the defects of its surroundings.

For instance, it is customary to declare that the quality of our profession must be poor because its numbers are so disproportionately large. We have actually one physician to every 500 inhabitants, four times as many as England (1:2000), six times as many as France, nearly eight times as many as Germany, and fourteen times as many as Russia or Spain (1:7000). Our low standards and the cheapness of our diplomas, we cry, have flooded us with a swarm of incompetent, half-educated men, whose numbers are the root of two-thirds of our troubles. If scientific Germany and decorous England are satisfied with one-fourth or one-sixth of our number, we must have a ruinous excess.

But there are other factors to be taken into consideration, and legitimate ones, too. The law of supply and demand, for instance, and the density of population for another. One competent physician is probably capable of properly performing the medical services required by 1500 or 2000 people, *providing* they are situated within a radius of three miles from his office, and for an even larger number within a mile; but what about the district where he would have to drive forty miles to reach 500 people? A physician is just as absolute a necessity to a "cow-town" or mining-camp of 300 people, and no medical aid within fifty miles, as to a factory-village of 5000. Indeed, many a "superfluous," poorly educated, uncouth country doctor, out on the frontier, with his tiny *clientèle* scattered over two counties, who loves his patients and his profession, commands as much of our admiration and respect, deserves as well of his country, and is as "necessary" in every

sense of the term as the most scholarly and polished consultant of a European center. If we were to divide this country and England each up into geographic settled districts, each requiring the residence of a physician, nearly two-thirds of our "excess of doctors" would disappear at once.

A word in this connection in regard to our low standard of professional education. This, we must also recognize, has an economic basis which, in the past, has raised it to the dignity of a practical necessity. It is not merely due to our "natural slipshod tendency." Exactly the same state of affairs prevails among our merchants, our tradesmen, our artisans—and for the same reason. In Europe a special education or years of apprenticeship are considered necessary to fit a man for any occupation or trade, even for a farmer. Here the farmer turns merchant, the mechanic, lawyer, the ploughboy, preacher, at a few months' or even days' notice—and successfully, too, as our extraordinary material prosperity indicates. It is merely a question of supply and demand. With literally scores of new, independent, and widely separated communities springing up every month, each one demanding a complete outfit of both brain-workers and muscle-workers, from judge to blacksmith, from bench to bellows, a rapid rate of production of "specialists" is absolutely necessary. The country simply couldn't have been settled *and kept civilized* without it. The wonder is that, considering the tremendous pressure under which the transformation took place, the results have been so good. On hunting-trips through the West ten or fifteen years ago it was a common experience for a doctor to be simply begged to stay in half the settlements he passed through; office-rooms, building-lots, houses even, would be offered, and when declined the urgent request would be made for a member of the next graduating-class, an office-student even, "anyone who knows how to deliver a woman and set a broken leg, for there's no doctor short of the fort, sixty miles away." Our "rapid-process" doctors have really been filling a genuine civic need of great importance. The greater part of our territory has now been supplied with its "geographically necessary" medical staff, and behold the result! A rapid elevation of the standard of education and a unanimous lengthening, nearly doubling of the course by almost every reputable medical school in the country.

The motive which led to this elevation had, of course, no connection with the economic influences, but these latter rendered the triumph of the better element possible. Just as long as a "six-weeks doctor" can go West and pick up a living practice at once so long a certain class of schools will turn out that kind and no other.

There is also another consideration in regard to our "oversupply" of physicians, which may seem at first sight fanciful, but which it seems to us has real weight. And that is, that the more highly civilized and the more intelligent a people the larger proportion of physicians will be needed. Not because disease becomes more common, but because a higher standard of health, comfort, and efficiency is demanded. There is little need for oculists, for instance, in an illiterate community, and the Cossack of the Don has little use for sanitarians or health-officers. More than this, the sensitiveness of the organism counts for much; the peasant, artisan, and even middle classes of Europe will suffer ten times as much in the way of pain, disfigurement, or disability, as our native Americans before they will consult a doctor. We seldom see "typical cases" of certain diseases described by our German and Austrian *confrères*, simply because they are not permitted to develop so long without interference from either medicine or soap. As an illustration of our meaning, it is a matter of common observation by Americans abroad that even well-educated and well-to-do Europeans will tolerate for years a condition of their teeth and gums which would be considered simply unendurable, if not actually disgraceful, here.

In short, the number of physicians is a good index of the intelligence of a race. And as civilization becomes more complex, and the whole field of preventive medicine, scarcely surveyed as yet, is added to our domain, a still higher proportion of skilled, intelligent advisers will be demanded by the community.

But, says someone, are we developing many such men or encouraging their development, or will not the mass of half-fledged living-makers overwhelm the small minority of scholars and maintain a low professional tone and standard in spite of everything? By no manner of means. The question is somewhat on the order of Carlyle's celebrated conundrum, "How can the united sagacity of fools constitute wisdom?" It is the best, the broadest, the most devoted men, from hamlet to metropolis, who sound the key-note and who set

the pace. Partly because cream always rises to the top, but, in still larger degree, because the great mass of imperfectly prepared physicians are keenly conscious of their defects and anxious to remedy them. Some, of course, fossilize into the pompous walking-dictionary of their parish, the self-satisfied oracle of admiring grandmothers, with "sure cures" for everything; but they are few and absolutely without influence on the mass. A half-educated man, who knows himself to be so, is often a much more desirable member of the profession than a well-educated man who is thoroughly aware of the fact. The former has unconsciously attained the Socratic attitude, "I know nothing, except that I know nothing; others do not know even this." There is a striking difference between the European profession and our own in this respect. The average British practitioner, college-bred and hospital-trained for five long years, with a couple of terms as interne added, usually buys himself a practice or a partnership and settles down for life. He reads his single medical journal, of course, attends his county society, goes to the British Medical Association when it comes within fifty miles of him, and occasionally revisits his old hospital, or attends a few clinics when in London with a patient. But as for post-graduate courses, even in London or Edinburgh, to say nothing of Paris or Vienna, he never thinks of such a thing. He has much to learn yet, of course, but his *education* is practically complete; experience is all he needs. There is but one post-graduate course in all London, and that was gotten up for the benefit of Americans. There are many honorable exceptions, of course (the F.R.C.S. and M.R.C.P. men, for instance); but the English practising physician who has studied abroad or taken up systematic work of any sort since his graduation is rare. Much the same state of affairs prevails in France, Germany, and Austria. Visit any great medical center and one will see ten American students to one of any other foreign nationality. The true *Deutscher* indeed would scorn to study outside of the *Vaterland*, and even consultants and teachers in Germany too often know little of and care less for the work which is being done in their own field elsewhere.

With all its faults and pretentiousness our post-graduate course is one of our most useful institutions, and the resolute determination and enterprise with which the majority of our "two-year" men avail themselves of its privileges compel our respect and admiration. No sooner is the horse and buggy earned, and the first payments made on house and lot, than our country doctor begins to lay by money to take a winter course, or even an additional year in New York or Chicago. A few years later he goes abroad, and this habit is kept up more or less through the whole of his professional life. We can scarcely go into any middle or western town of 2000 people, or even rural district of the same population, without finding some doctor who has spent one or more winters or springs in Philadelphia or New York, and not infrequently in Vienna or Paris. It is true the majority of us are imperfectly educated, but we are not ashamed to admit it, and we are doing our best to remedy the defect.

We are also accustomed to assume in the depths of our self-depreciation that our general ethical tone as a profession is far below the European one. Nothing could be further from the truth. From personal experience we do not hesitate to say that the tone of our profession as to courtesy, modesty, and ethical qualities generally is but little below that of England, and *far above* that of either Germany or Austria. The disgraceful promptness and certainty with which all new remedies and appliances get themselves patented in Germany is a case in point, as is also the attempt to cover Behring's antitoxin in the same manner. The German or Austrian is permitted to trumpet his own praises abroad, or denounce and belittle his rival brother in a way that would scandalize even the Bunkum County Medical Society. His titles and official rank are spread before the public at full length on every possible occasion, and woe betide the unlucky wight who omits the least of them in addressing him. The shower of abuse and vilification poured upon SIR Morrell Mackenzie by the court-physicians, in the case of the Emperor Frederick, even granting every possible provocation on his part, was a disgrace to the entire German profession. Fancy Agnew and Hamilton abusing Bliss after that fashion in the Garfield case, no matter what he did!

As to personal courtesies, it is no unusual thing for Austrian consultants to charge fees, and heavy ones, too, for services or even advice to visiting English and American physicians. When it comes to that truest test of a man's real breeding, his manner and behavior toward his hospital-patients, there is simply no comparison to be made between

the Continental and Anglo-American attitudes. It might be roughly summed up in one sentence: in America or England the chief object of interest and care is the patient, in Germany the disease.

Last of all, we are apt to assume that quackery is a malady almost peculiar to our own soil, and that the official lists abroad represent all the healers of disease in their respective countries. It is true the fame of the American quack is world-wide, and his luster is unrivalled anywhere in Europe; but, nevertheless, the fact remains that even the best-regulated countries in the world abound in "irregulars" of every sort and description. First of all come the apothecaries, who in many parts of England, for instance, are more numerous than the physicians, and prescribe over their counters fully one-half of the medicine consumed in the country. The "pothecary" is the first resort of the vast mass of the laboring-classes, the doctor being far too expensive to be called, except as a last and direst necessity. Then come a horde of midwives, "bone-setters," "wise women," and so forth, down to the "seventh son of a seventh son," and the man who has bought or inherited a secret formula of magic value.

As to patent medicines, although the term is one of our own coining, the goods it is applied to are cosmopolitan in their range. Though we use far more of them per capita here (as we do of all other luxuries), especially in prohibition communities, yet the sale of them in England, France, and Germany is simply enormous. Their advertisements swarm in every paper, appear upon every bill-board, street-car, and dodger, and would disfigure the landscape almost as horribly as they do on this side the Atlantic was not such defacement strictly forbidden by law. Indeed, in effrontery and in diabolical ingenuity of methods of thrusting their wares upon your notice, the French and English manufacturers are rapidly going ahead of our own. The columns of foreign papers and journals are coming to be even more heavily loaded with "ads" of this, and, indeed, of all descriptions, than our home-ones. And this latter tendency is noticeable in even the medical journals. Even some models of British journalistic propriety carry heavier ballasts of legitimate advertisements in proportion to their canvas of reading-matter than would be considered entirely *comme il faut* by one of our first-class journals.

In short, all professions, as all nations, have their shortcomings, and while we have many things to be heartily ashamed of, both as individuals and as a class, and should slacken our struggle for self-improvement not a whit, yet we think it only fair at times to take stock of our virtues as well as our vices, and to cheer ourselves with the thought that with all our shortcomings our intentions are good, our hearts in the right place, and our rate of progress distinctly appreciable.

EDITORIAL COMMENTS.

Hippophagy.—It is an ill wind that blows nobody good, and the late appalling fall in the price of horses, due to the introduction of the electric trolley and the bicycle, has turned the attention of our thrifty farmers to the question of the utilization of horse-flesh as an article of diet. None of them seems at all desirous to make the experiment himself, but they fail to see why it should not form an excellent and healthful food for somebody else. In fact, the project has been seriously considered just lately of shipping horses on the hoof to Germany, where they are sufficiently enlightened to have no prejudice against this luxury. According to Secretary Morton, nearly 10,000 horses are slaughtered every year in Germany alone for food purposes, a large proportion being used in the production of their favorite "horse-sausage." The average price paid by the butchers is about $35 a head, which would yield quite a good profit to the shippers.

Now why should we not do likewise and save the poor ponies all the horrors of sea-sickness and transportation. We copy Germany as nearly as we can in pathologic matters already. Why not also in dietetic customs? The only obstacle is mere popular prejudice against eating horse-meat. We might succeed in introducing a little of the sausage, because we are already accustomed to the use of man's next nearest four-footed companion, the dog, in that form, but as to colt-steaks and mare-cutlets there would be difficulty.

Seriously, however, why should we not add horse-flesh to our bill-of-fare? There is absolutely no physiologic or hygienic reason why it should not be as nutritious, healthful, and palatable a food as the flesh of the ox or the sheep. Indeed, there is abundance of evidence from all climes that it is the equal of beef and mutton in all three of these respects. The Tartar hordes of the Siberian steppes depend on their horses almost entirely for meat as well as milk and clothing; as also did the Scythians of antiquity. In war and in times of scarcity horse-flesh has been used hundreds of times and with most satisfactory results. During the last siege of Paris, for instance, thousands of horses were consumed, and the meat was found so palatable that dozens of butcher-shops still do a large trade in it—a trade that is steadily increasing, especially among the laboring-classes. The meat is said to be almost indistinguishable from beef, though of finer grain and more marked flavor. This is extremely favorable when we remember that most of the animals killed have been such as through age or injury were incapacited for hard work. Curiously enough, mule-beef is said to be still juicier and better flavored.

In fact, the only objection that can be raised is on the score of expense, and that has now been completely removed, as many horse-raisers would be glad to get good "beef-prices" for all but their choicer stock.

Besides being a valuable addition to the variety of our flesh-foods, in the light of recent bacteriologic developments there would be another advantage that might make the use of horse-meat of great importance to the community. This is the almost complete immunity of the horse to tuberculosis. If, in addition, a breed of horses could be developed with special reference to their milking-powers—equine Jerseys, as it were—and their milk substituted for that pernicious extract of tuberculous bovines that at present fills our nursing-bottles and milk-pitchers, what a threatening shadow would be lifted from our national future! By all means let us urge horse-flesh and mare's milk upon our patients if only to relieve the anxiety of our bacteriologic friends and save the babies from sterilized milk. Of course, from a purely scientific point of view they had better starve on that than grow fat on tuberculous lacteal fluid, but mothers and even doctors cannot see it so. Indeed, mare's milk should be a sure prophylactic against "mare's nests" of all kinds.

Typhoid Fever and the Brand Method.—In the report of the German Hospital of Philadelphia, recently issued, we find the percentage of deaths from typhoid fever treated in that institution during the year to be 16⅔ per cent.—78 cases with 13 deaths. The German Hospital has been the home of the so-called cold-water treatment in this country, and the beneficial results of the treatment in this institution in previous years have been largely quoted. The following table shows the number of cases of typhoid fever treated and the mortality from the year 1890, when the Brand method was introduced:

	No. of cases treated.	Deaths.	Per cent.
1890	106	5	4.7
1891	116	8	6.9
1892	71	3	4.2
1893	74	11	14.8
1894	78	13	16.6

In THE MEDICAL NEWS of November 26, 1892, Dr. J. C. Wilson reported one series of 160 cases, treated according to the method of Brand, with 8 deaths, or 5 per cent.; and another series of 66 cases, with 4 deaths, or 6 per cent. (These cases are included in the figures already given, though differently arranged.) It would be interesting to determine what has caused this unfavorable increase in the mortality-rate under the cold-water treatment. As far as we can learn, the methods have not been changed, and the disease in Philadelphia has not been especially virulent. The death-rate varies in different years. In the same hospital, previous to 1890, the mortality varied from 11 per cent. to 20 per cent.

The Pennsylvania Hospital typhoid-fever statistics are as follows:

	No. of cases treated.	Deaths.	Per cent.
1890	126	22	17.4
1891	144	23	16 0
1892	104	10	9.6
1893	94	4	4.2
1894	105	14	13.3

The Presbyterian Hospital reports show the following:

	No. of cases treated.	Deaths.	Per cent.
1890	17	5	28.8
1891	39	5	12.8
1892	83	6	7.0
1893	69	12	17.0
1894	80	3	3.7

In the Pennsylvania and the Presbyterian hospitals the Brand method has been used in the majority of cases during the last two years.

There is some danger of such a method of treatment becoming routine, to the exclusion of all other treatment, and this is always to be guarded against. The cold bath has decided advantages, and when carefully given and controlled, and each case judged by itself, it is a therapeutic agency of great worth; but if it is considered in the light of a specific agency, and each patient is subjected to it, the bulk of the work being left in the hands of the nurses, there is some liability to suffer from an increase in the mortality-rate. One of the good effects of the Brand treatment is the constant watching that is required, the frequent noting of the temperature, etc.

Sixteen-and-two-thirds per cent. mortality is not a very favorable showing for the cold-water treatment, although the managers of the German Hospital in their report still seem to regard the results as most encouraging, and give large praise to the treatment. It would be interesting to conduct a series of experiments in the same hospital, at the same time, with a sufficient number of cases and extending over a considerable period of time, one group of cases to receive the Brand treatment only, another group to be treated with intestinal antiseptics, and a third group to receive the two combined; the bath for its antipyretic effect, the antiseptics for their local action.

Opium as a Food.—Facts are sometimes against the professional reformers. Alcohol, in spite of the evil it does, has certain uses, and is steadily winning its way back to the tables of our educated classes. Tobacco has been authoritatively declared to be a necessity of city life, and one of the great buffers of the shocks of the rush of the nineteenth century. And now even a royal commission in an elaborate report has asserted that the use of opium by the inhabitants of India has a rational hygienic basis, and is not merely one of the "horrors of heathenism." In the first place, it is, we are assured, a valuable household remedy for the intestinal diseases that swarm in that climate, as paregoric and blackberry brandy are used by our country-folk. It is also regarded by the natives as a most reliable preventive of malarial diseases, and though not so recognized by the profession it has been highly esteemed for this purpose by many explorers. The commission does not say anything about snake-bites, which proves that they are not merely engaged in furnishing excuses for the appetite of the gentle Hindoo. Further than all this the report declares that the regular consumption of opium in moderate doses fills a place in the dietary similar to that occupied with us by tea and coffee. In other words, opium is a genuine food of the "force-regulator" class (Prout), and of value especially in connection with a coarse and restricted diet and a life of hardship. Its value was proved after the grimmest fashion during the

building of the railway across Panama. One of the contractors came to the conclusion, whether upon economic or philanthropic grounds is not known, that opium was a baleful luxury to his army of coolies. Accordingly, he cut off the supply. The men began to flag and sicken at once, but to this he paid little attention, regarding it partly as shamming and partly the mere pangs of a morbid appetite. In less than a week, however, two-thirds were too weak to work; dysentery broke out, and before the frightened contractor could secure a new supply of opium, from a distant port, nearly half the poor wretches had died, and the remainder were months in recovering their strength. In some districts of India the drug is actually given to horses on long and severe rides by couriers, despatch-bearers, and others. The moderate user of opium, says the commission, seems to be as healthy, happy, and long-lived as the average abstainer. Its excessive use is, of course, injurious, as also is that of tea or pie, but such excess is said to be exceptional. As to the mechanism of the alimentary service of these food-narcotics, we are completely in the dark; but then so we are also as to their medicinal effects. The facts seem, however, to be unquestionable. We have the unanimous testimony of humanity to both. There is not a nation upon the globe of whose regular dietary one or more of them do not form a part. This fact alone establishes for the naturalist a high presumption in favor of their usefulness. He, at least, cannot bring himself to believe that all men are fools. "What all men in all times have believed" is considered a weighty argument now, even in theology.

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A Recent Action of the Illinois State Board of Health is worthy of mention. At the June meeting a resolution was passed requiring all medical students in the State of Illinois to pass their entrance-examination before the Faculty of the State University. This is following out the plan of the Regents of the University of the State of New York. It will relieve the medical colleges of Chicago of the necessity of holding these examinations, and it will place them all upon the same footing.

During the past few years a number of new schools of medicine have come into the field and made competition for the medical students in Chicago more severe. The preliminary examination has become a crucial point with many of them. Minnesota, Wisconsin, Iowa, and Missouri are favorably situated to follow New York and Illinois in this movement.

At the last meeting of the Association of American Medical Colleges a resolution was introduced which will be acted upon at the coming meeting in Atlanta, requiring all colleges members of this Association to place their entrance-examinations outside of their own control. Thus we see that the Boards of Health are seconding the efforts of medical educators in relieving the colleges of the only stigma that remains upon them.

It is one step further in the same direction to place the examinations of all candidates for the degree of Doctor of Medicine, and for the licence to practise medicine, in the hands of the Faculty of the State University. This examination must become the rule both for the protection of the public and for the self-respect of the schools.

Sexual Physiology in the Girls' High School.—In the Girl's High School of Philadelphia physiology is one of the regular studies, and yet in this study the questions of sex and generation are practically ignored. It seems that those in authority (not the teachers) are afraid the young women may learn something that they ought to know. Where is a girl to derive her knowledge of these subjects, we ask? Her mother will not tell her, or may be as incapable of instructing her in the functions of the sexual organs as she is incapable of teaching her the functions of the heart and brain. In civilized communities natural instincts are not proper or trustworthy guides, and consequently the only teachers that remain are companions who have derived their knowledge in some haphazard and dangerous way, or from sensational and unreliable literature. Three or four lectures on comparative embryology would suffice to give the students the requisite knowledge, and a lecture on the hygiene of the sexual functions might be added. These girls, who are to be the future mothers of the community, cannot know too much about themselves, especially if the knowledge imparted is of the right kind.

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Commercial Hydrogen Dioxid.—In the current number of the *American Journal of Pharmacy* is published a note on the strength of commercial samples of hydrogen dioxid. Twenty-five samples were tested, showing an average strength of 9.94 volumes, the highest being 10.37, the lowest 9.03 volumes. Unfortunately, the samples are designated only by numbers, no clue being given as to the manufacturers. Analytic statements of this character are of little professional value. The reports should state the brands tested, the condition under which samples were obtained, and should indicate, at least briefly, the method of analysis.

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Removal of the Editorial Office of the Medical and Surgical Reporter.—We learn with regret that our most esteemed contemporary, the *Medical and Surgical Reporter*, in order to be nearer the printing-office of its new publisher, has removed its editorial offices to New York. We are sorry that business reasons should force it to exchange the medical atmosphere of its lifelong home for one of such uncongenial surroundings. It is indeed true that the footings of our clearing-house transactions do not equal those of our self-complaisant sister city.

REVIEWS.

INDIGESTION. AN INTRODUCTION TO THE STUDY OF DISEASES OF THE STOMACH. By GEORGE HERSCHELL, M.D. Lond. Second edition. New York: G. P. Putnam's Sons. London: Baillière, Tindall & Cox, 1895.

HERETOFORE no English writer has attempted to describe stomach-diseases from the modern standpoint. In making the attempt our author necessarily has departed widely from the course adopted in the former edition. In some respects the arrangement of subjects is admirable, and admits of greater simplicity and brevity than is usual. It is to be regretted that the author has not taken full advantage of his plan. Briefly stated, there are described, 1st, normal digestion; 2d, disturbed

digestion; 3d, methods of examination; 4th, pathology of special diseases; 5th, treatment. Here is an opportunity for the avoidance of repetition, but unfortunately, under the heading "Interrogation of Patient," there is introduced a chapter of subjective symptoms, most confusing to the student, for whom the book purports to have been written. It appears to be a concession to more antiquated ideas of investigation, proper enough in its place, perhaps, but too conspicuous here.

The modern methods of examination are for the most part clearly stated, and are sufficiently complete for a book of this character. The author's ideas of treatment are acceptable, and much good must be accomplished by spreading his doctrine in Great Britain.

It is unfortunate that in the interests of brevity the element of style has been so much disregarded, and, aside from this criterion, it must be admitted that the diction is imperfect. For instance, it is said (p. 176): "Obstruction in the duodenum may be either a neoplasm, a cicatricial contraction, or due to a flexion." Again (p. 177): "Neurasthenia and many other symptoms are caused by the absorption of toxins from the dilated stomach." Again (p. 176): "The stomach being unable to ever absolutely empty itself." Nearly every page exhibits similar experiments in construction. In the next edition it is hoped that the faults, which, by the way, are more conspicuous than harmful, will be eliminated, and there will remain a good short work on the stomach.

The author recognizes the important etiologic influence of reflex irritation in the production of gastric neuroses, and justly commends the teachings of an American physician in this connection. A writer who shall assign full value to ametropia and heterophoria in the etiology of gastric disorders will become as useful as he is uncommon.

THE CARE OF THE BABY: A MANUAL FOR MOTHERS AND NURSES, CONTAINING PRACTICAL DIRECTIONS FOR THE MANAGEMENT OF INFANCY AND CHILDHOOD IN HEALTH AND IN DISEASE. By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Professor of Clinical Medicine in the Philadelphia Polyclinic and School for Graduates in Medicine; Physician to the Children's Hospital, to the Methodist Episcopal Hospital, and to St. Agnes's Hospital, Philadelphia; Member of the American Pedriatic Society and of the Association of American Physicians. Philadelphia: W. B. Saunders, 1895.

THIS book, of three-hundred-and-ninety-two pages, is, as its title indicates, designed as a guide to mothers and nurses in the care and bringing up of infants and children. That such a guide is essential, particularly to a mother with her firstborn, is evidenced by the gross ignorance of the simplest details in regard to the care of the child, and by the many popular fallacies in regard to infancy that have been handed down from time immemorial by those who profess to be knowing and skilful nurses of babies; and this is so not only among the poorer classes, but even among the well-to-do. Everyone who has seen much of children cannot but be struck by the joy with which a kind(?) neighbor imparts her ignorance to an anxious, young, and inexperienced mother, not only needlessly alarming the latter, but also doing absolute harm by her ignorant counsel. It is certainly of advantage to both mother and child that such a book as that before us should be available.

The author devotes about a dozen pages to some useful information to the mother in regard to her life prior to delivery, and as to the preparations necessary for confinement. The newborn baby is then described in sufficient detail as regards its superficial anatomy and its physiology. The manner and rate of growth and development of the teeth are fully dealt with in the succeeding chapter. Chapters on the toilet and the clothing suitable for the different ages are followed by an extremely good chapter on the diet. In the latter the author's views are not far different from those of other writers upon the selection of children's diet. He decidedly prefers the use of soda-solution to that of lime-water as an alkalinizing medium in the use of cow's milk. Sleep, exercise, and training, the baby's various nurses, and the baby's rooms finish the portion of the book devoted to the baby in health. The chapter on the sick baby occupies most of the rest of the volume. In it the author describes the features of disease, the management of the sick baby, and the disorders of childhood. The author is to be congratulated upon having written this chapter with such judgment that the mother will be aided in her ability to watch over her child properly without thinking herself capable of conducting the medical treatment through an illness. This, probably the most difficult chapter to write well, is one of the best in the book.

In the appendix are given minute directions for preparing various articles of diet, descriptions of the different forms of local and general baths, directions for making some of the principal poultices and plasters, formulæ of different lotions and powders for external use, formulæ for a few simple domestic remedies for use in emergencies, and some miscellaneous directions in regard to massage and the administration of drugs.

The writing of such a book must be difficult chiefly from the necessity for discrimination in regard to the extent to which it is judicious to enter into medical details. To us it seems that Dr. Griffith has well accomplished his work in this respect, neither making too light of the appearances of illness nor unnecessarily causing alarm by mention of possible serious consequences.

PATHOLOGY AND TREATMENT OF DISEASES OF THE SKIN. By MORIZ KAPOSI, Professor of Dermatology and Syphilis in the Vienna University. Translation of the last German edition, under the supervision of JAMES C. JOHNSTON, M.D. Pp. 684. New York: William Wood & Co., 1895.

THE author of this work is so well known to readers of German interested in diseases of the skin that an introduction is unnecessary. Professor Kaposi (the worthy successor to Hebra the elder, in the chair of dermatology in the University of Vienna) presents in this work the principles and practice of dermatology as recognized by the Vienna School of Medicine, of which he is now the chief exponent. The subject-matter is in the form of lectures, and is, therefore, didactic. Pathology and pathologic anatomy receive much attention.

As is well known, the Vienna school attaches but little importance to internal remedies in the treatment of cutaneous diseases, and the American reader in perusing this book will look in vain for advice upon the use of the many internal remedies constantly employed by physicians in this country in treating such diseases as eczema and psoriasis.

The distinguished author is a Viennese, and not a cosmopolitan, in his views. He pictures graphically diseases of the skin as they are met with in Austria, but accords scanty notice to the work that has been done in other countries during the last decade. Nevertheless, the book is one of the great works of the period, and is full of valuable information, the fruit of a lifelong and abundant experience by an unusually accurate and keen observer. We are, therefore, pleased to see the work translated into English.

The translation has been done freely rather than literally, with here and there the omission of a sentence or a paragraph, doubtless with the view of condensation. We are somewhat in doubt as to whether Dr. Johnston is the translator or not, inasmuch as on the title-page it is stated that the translation has been done under his supervision. In one chapter the term *knötchen* is translated nodule, instead of papule, as it should be. In conclusion, we may say that the book should be in the library of every physician interested in dermatology.

NEWS ITEM.

For the James E. Reeves Fund we have received from Drs. E. B. Doolittle, 50 cents; A. Cornish, $1; G. W. H. Kemper, $1; H. M. Haskell, 50 cents. We quote the following paragraph from Dr. Haskell's letter:

"Surely the professional conscience, and especially the journalistic, is not so seared as to turn a deaf ear to this call. There ought to be from 50,000 to 100,000 copies sold, and the balance kept as a sinking or trust fund to defend similar cases in the future."

BOOKS AND PAMPHLETS RECEIVED.

Inebriety or Narcomania: its Etiology, Pathology, Treatment, and Jurisprudence. By Norman Kerr, M.D, F.L.S. Third edition. New York: J. Selwin Tait & Sons, 1894.

Ripening of Immature Cataract by Direct Trituration. By Boerne Bettman, M.D. Reprinted from the Annals of Ophthalmology and Otology, Vol. IV, No. 1, 1895.

On the Physiological Action of Antitoxin in Diphtheria. By G. P. Hackenberg, M.D. Reprinted from the American Practitioner and News, 1895.

Ein Beitrag zur Aetiologie der contraren Sexualempfindung. Von Dr. Freiherrn v. Schrenck-Notzing. Beilage zur Wiener klinischen Rundschau, 1895, No. 8.

The Possibility of Obtaining Marked Improvement in the Treatment of Diseases and Supposed Deaf-mntism by Acoustic Gymnastics. A System of Vocal Training of the Auditory Nerve, as Advocated by Professor Urbanschitsch, of Vienna. By Dr. M. A. Goldstein. Reprinted from the Archives of Otology, 1895.

Hyperpyrexia in Broncho-pneumonia; Infantile Scurvy; Meningocele. By Edwin E. Graham, M.D. Reprinted from the Internation Clinics, Vol. IV, Fourth Series

A Case of Neurotic Edema. By Edwin E. Graham, M.D. Reprinted from the Annals of Gynecology and Pediatry, 1894.

Nervous Diseases in Early Syphilis. By G. Frank Lydston, M.D. Reprinted from the Journal of the American Medical Association, 1895.

Tetany in America, with a Report of Five Cases. By J. P. Crozer Griffith, M.D. Reprinted from the American Journal of the Medical Sciences, 1895.

Sixty-fifth Annual Report of the Inspectors of the State Penitentiary for the Eastern District of Pennsylvania. Philadelphia, 1894.

Forms of Paralysis in Children. By J. P. Crozer Griffith, M.D. Reprinted from the International Medical Magazine, 1895.

Medical Gynecology. A Treatise on the Diseases of Women from the Standpoint of the Physician. By Alexander J. C. Skene, M.D. With illustrations. New York: D. Appleton & Co., 1895.

Appendicitis. By George W. Gay, M.D. Reprinted from the Boston Medical and Surgical Journal, 1895.

A Case of Lesion of the Thalamus. Death from Intestinal Hemorrhage. By Wharton Sinkler, M.D. Reprinted from the Journal of Nervous and Mental Disease, 1894.

Sporadic Cretinism, and its Treatment by Thyroid Extract. By Wharton Sinkler, M.D. Reprinted from the International Medical Magazine, 1894.

Pigmentum Chloralis Antisepticum. By Dr. John Broom. Read before the British Medical Association, August, 1894.

Left Hemiplegia. By J. T. Eskridge, M.D., with Remarks by Frederick Peterson, M.D. Reprinted from the New York Medical Journal, 1895.

A Study of Erysipelas. By Julius Selva, M.D. Reprinted from the New York Medical Journal, 1894.

Free Hydrochloric Acid. Is its Absence from the Stomach a Sign of Cancer? By Richard B. Faulkner, M.D. Reprinted from the Journal of the American Medical Association, 1895.

Report of a Case of Pathological Separation of the Lower Epiphysis of the Femur. By A. H. Meisenach, M.D. Reprinted from the Annals of Surgery, 1895.

The Abnormalities of Ocular Balance: their Nature, Etiology, Conservative Management, and Operative Treatment. A Clinical Study. By S. D. Risley, M.D. Reprinted from the University Medical Magazine, 1895.

The External and Internal Use of Guaiacol, with Brief Reports of Cases. By J. M. Anders, M.D. Reprinted from the Therapeutic Gazette, 1895.

A Report of Thirteen Cases of Ataxia in Adults with Hereditary History. By Irwin H. Neff, M.D. Reprinted from the American Journal of Insanity, 1895.

An Epidemic of Typhoid Fever at Bayhead, N. J., from Direct Infection of a Milk-supply. By W. H. Katzenbach, M.D. Reprinted from the Medical Record, 1895.

Demonstration of Skulls Showing the Effects of Cretinism on the Shape of the Nasal Chambers. By Harrison Allen, M.D. Reprinted from the New York Medical Journal, 1895.

Morphology as a Factor in the Study of Disease. By Harrison Allen, M.D. Reprinted from the Transactions of the Congress of American Physicians and Surgeons, 1894.

The Filtration of Public Water-supplies. By Henry Leffmann, M.D. Reprinted from the Copyrighted Proceedings of the Engineers' Club of Philadelphia, 1895.

Bicycling for Women from the Standpoint of the Gynecologist. By Robert L. Dickinson, M.D. Reprinted from the American Journal of Obstetrics, 1895.

Purulent Fibro-myomata of the Uterus, and Professor Vulliet's Operation for their Extraction. By Charles Greene Cumston, B.M.S., M.D. Reprinted from the Annals of Gynecology and Pediatry, 1895.

Thirty-fourth Annual Report of the Board of Managers of the Woman's Hospital of Philadelphia. January, 1895.

Thirteenth Annual Report of the Children's Aid Society of Pennsylvania, 1894. 321 South Twelfth Street, Philadelphia.

Some Remarks on Skiascopy, or the Shadow-test. By J. Thorington, M.D. Reprinted from the Annals of Ophthalmology and Otology, vol. iv, No. 1, 1895.

The Influence of the Eye on Character and Career. By Justin L. Barnes, B.S., M.D. Reprinted from the New York Medical Journal, 1895.

Pyometra in a Cat. By T. S. Cullen, M.B. Reprinted from the American Veterinary Review, 1894.